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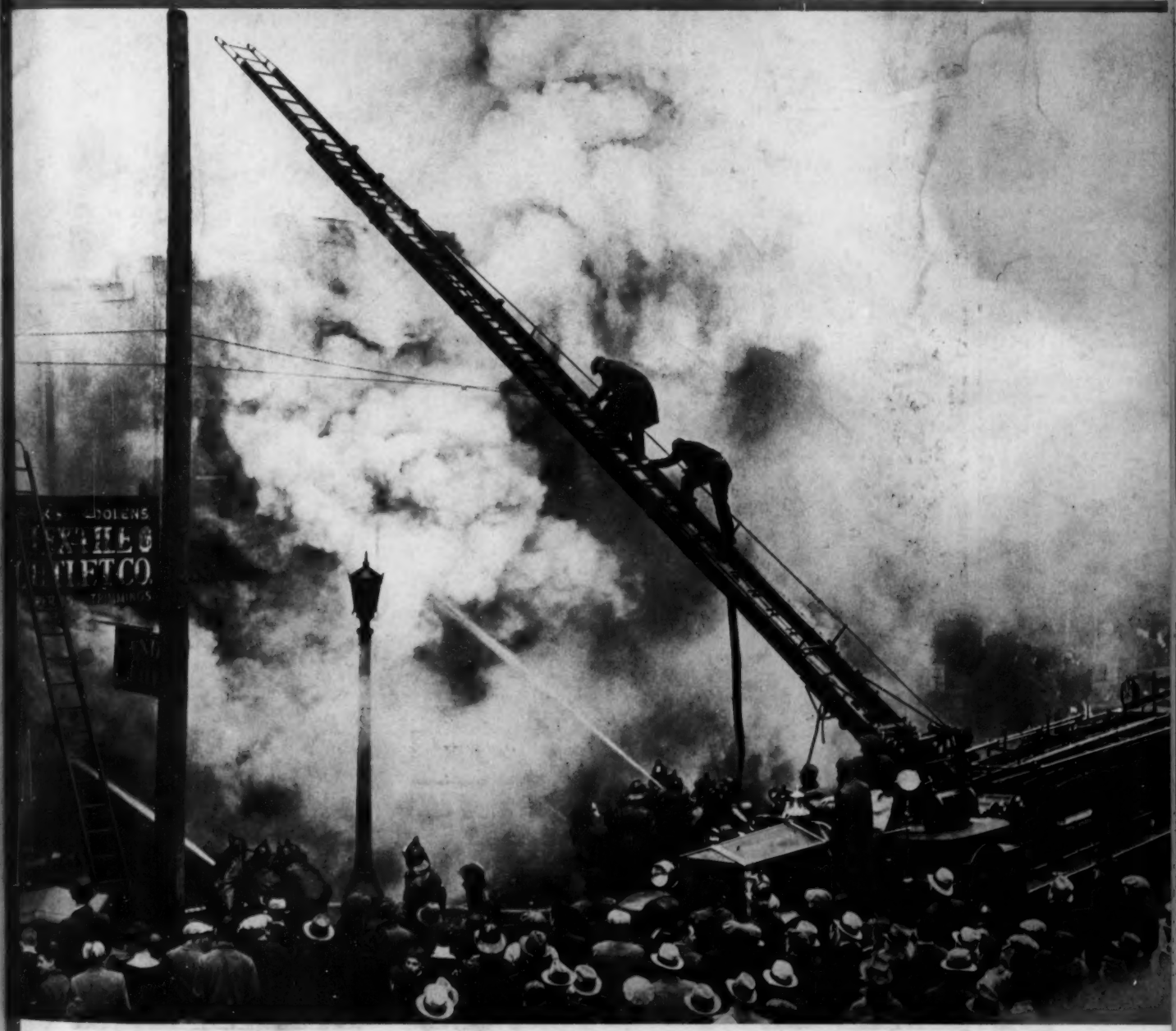
FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

Vol. 87, No. 2 FEBRUARY, 1934 Member A.B.C.—A.B.P.



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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

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The Publishers

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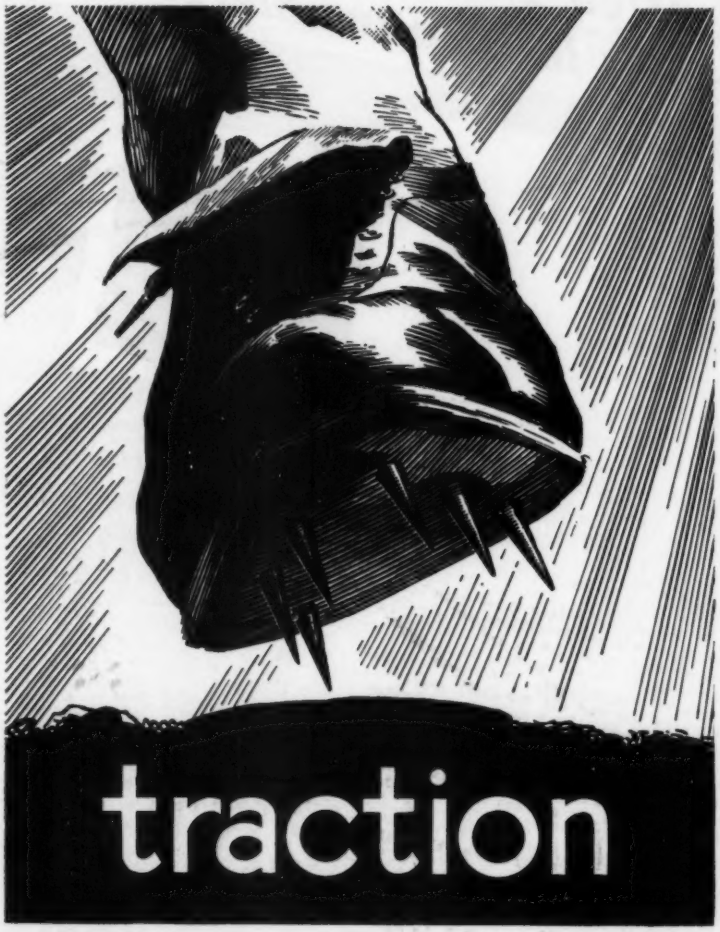
YOU DEMANDED THIS TIRE

SO GOODYEAR BUILT IT



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Here is a tire for fire trucks. Goodyear built it. It meets every demand that fire-fighting apparatus can place upon it.

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- **Greater traction—The famous Goodyear All-Weather tread provides maximum traction.**

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GOODYEAR

TRUCK TIRES

Money savers

"SPRINKLER WATCHMAN paid for Itself First Time It Called Fire Department" —Says Schenectady Hardware Merchant

EVERETT ZEH
SUPT. FIRE & POLICE TELEGRAPH

DEPARTMENT OF PUBLIC SAFETY
CITY OF SCHENECTADY
OFFICE OF THE
SUPT. OF FIRE AND POLICE TELEGRAPH

July 5th, 1933.

The Gamewell Company

Newton, Mass.

Gentlemen:

I am pleased to state that we had quite a unique experience here in Schenectady with one of the Sprinkler Watchman installations. Sunday morning during the Christmas Holidays, a call came in from the Clark Witbeck Co., wholesale hardware dealers. The master box, connected to the Central Office was tripped by leaky piping. The fire department arrived in time to force an entrance and shut off the water supply before much damage had been done, there being but two inches of water on the basement floor. Think of what might have resulted had our department not been called! Mr. Witbeck expressed himself as highly pleased, and said that it had paid for itself with that one experience. Incidently, the Underwriters told Mr. Witbeck that it would not be necessary to hire a watchman if this installation was made. It did not take much of an argument to sell him the idea.

At another location, a large wholesale grocery house, the architects insisted on this type of installation.

Very truly yours,

EVERETT ZEH.

Supt. Fire & Police Telegraph.

Everett Zeh, who has charge of the municipal fire alarm system at Schenectady, N. Y., sent us this latest story of the Gamewell SPRINKLER WATCHMAN's efficiency. What better evidence could anyone want on the value of connecting automatic sprinkler systems with the municipal fire department through a Gamewell master type fire alarm box!

NRA WE DO OUR PART

THE GAMEWELL COMPANY

Newton, Massachusetts

"A Box a Block"

FIRE ENGINEERING

The Journal of the Fire Protection Profession

Volume 87 FEBRUARY, 1934 Number 2

With the Editor

The I.A.F.C. Starts a Commendable Task

While the directors of the International Association of Fire Chiefs, in session in New York City recently, were formulating plans for a drive to place the fire service in all states under Civil Service, one of its directors, Chief M. M. Tawney, of Harrisburg, Pa., and his Assistant Chief, A. L. Patton, were forced to resign by newly elected political superiors.

The splendid records of these two men meant nothing to the politicians who were out to get their scalps, and thus provide jobs for the politically faithful.

But what else can be expected where a Fire Department is not protected by civil service laws?

It's an old story, this summary dismissal of a fire officer because he won't play politics. The age of the practice, however, is neither warranty nor an acceptable excuse for its continuance. It is invariably damaging to the morale of a department, for it ruins discipline and dampens honest ambition of the men to improve and advance themselves in the service.

Occasionally public resentment forces reinstatement of those discharged, particularly where the daily papers take up the fight. But if the newspapers are politically controlled and unsympathetic, there is little hope of reversal.

The International Association of Fire Chiefs, in inaugurating its campaign to place all ranks in the service from Chief on down under Civil Service, is heading toward a most worthy objective. It will succeed to the extent that fire-fighting organizations throughout the country afford cooperation. A very capable Civil Service Committee has been appointed by President Selden R. Allen, and a thorough study of present civil service laws will be made. Suggested legislation will be presented by the Committee at this year's annual convention. From that point on, progress will depend upon the willingness of fire service associations to aid in securing enactment of legislation. Such assistance should be extended promptly and willingly, for all members of paid forces not now protected by Civil Service will benefit. It is only when such incidents as that occurring at Harrisburg happen that the value of civil service protection is fully appreciated.

Similar injustices will be unheard of when all departments operate under civil service laws.

Fred Sheppard

Hazards of Volatile Oils in Sewers

By CHIEF S. BLACKLER,
Fire Department,
Ottawa, Ont., Can.

IN this paper I shall endeavor to present my personal experiences and observations as well as the result of inquiries by experts relative to the dangers of explosive substances entering subterranean structures such as sewers, conduits for telephones, telegraph, electric lights, power cables, with their accessories.

Flammable Liquids

Among the most volatile of these liquid flammable substances are derivatives of petroleum, which possess relatively low boiling points generally classified by the public as benzine or gasoline. These substances being specifically lighter than water, float upon the surface of the sewage, over which they quickly spread out in thin layers, rapidly attain the temperature of the effluents and in the presence of any heavier oils or fats are found associated with the latter substances.

It is well known that a certain amount of these flammable liquids find their way into the sewers, from storage and service stations and garages, also the possibility of waste from dyers, cleaners or other manufacturers along the line of the sewer systems. In addition to the above in a certain city in Canada with a population of a little over one hundred thousand where a serious sewer explosion occurred the Fire Inspection Bureau reports having made a survey of all gasoline service stations of ascertaining the amount of the small sales delivered not into the tanks of automobiles or trucks, but sold in small containers of five gallons or less. Total for seventeen filling stations showed 291 gallons for the month of June and there were 191 gallons sold in glass milk jars.

Large Amount of Waste From Households

June is not considered the house cleaning month as are the earlier spring months. Therefore, the amounts stated are probably low. In fact, one service station stated that, while in June they had only sold ten gallons, their average household consumption was thirty gallons per month. Now unquestionably the average householder when through with the cleaning, especially when fabrics have been washed, and frequently in the bath tub, permit the dirty gasoline to run down the sewers, and gasoline is used for the purpose of cleaning the grease out of sink pipes, which in turn connect with the sewers.

It is an admitted fact that should any of the foregoing liquids find its way into any of the subterranean passages in sufficient quantities we either have too rich a mixture to explode or a gradual building up to the explosion point, and lying more or less dormant, it might not necessarily come from one big leak but might be the result of a number of small leaks under pavements, with no chance to escape.

Having introduced the possibility of inflammable volatile petroleum products obtaining ingress to the sewer, it may be proper to direct attention to these products. If the product known in the trade as high grade No. 1 gasoline be taken, then, at the average temperatures observed at the surfaces of the effluents, the vapor pressures resulting would be approximately equal to three millimeters of mercury.

The pure vapor of gasoline, assuming it was penetanehexane (most volatile liquid components), would be over two and one-half or more times heavier than ordinary air and, consequently, would lie close to the surface of the water which is generally located, during the winter season in the lower third section of the sewer.

Vapor gasoline is two and one-half or more times heavier than air. It must be remembered however that the specific gravity of gasoline air mixture would decrease in proportion as its specifically lighter component (air) was increased; thus, with very dilute gasoline air mixture, the resulting specific gravity would approach more closely to unity, but never reach it.

Then again there is the possibility of petroleum vapors entering the sewage systems from leaks from gasoline service stations storage tanks, and dry cleaning establishments, seeping through the soil and entering subterranean passages owing to defective sewage pipes, and connections, or through the brickwork of sewers.

Explosions and Fires From Illuminating Gas

Now we come to another probable cause of explosions and fires in subterranean structures namely Domestic or Illuminating Gas. Illuminating gas is specifically lighter than air, therefore, the gas air mixture would likewise be specifically lighter than air would tend to locate in the upper third or crown of the sewer, in a manner similar to methane (marsh gas) in coal mines, which is found near the roof of the underground workings. Further, in the case of the occurrence of illuminating gas within sewers, the mixture would tend to locate in that position, in the vicinity of which the entry of the house-drain pipes, which have a fall from the premises to the sewer, would be. This is in marked contrast to the heavier gasoline-air mixture, which would locate near the surface of the sewage flowing within the sewer and thus, in general be distant from such drain entries.

While discussing gases one other property, particularly of light gases, which is not fully appreciated or is overlooked by many persons, is the well known case of diffusion through permeable structural materials such as bricks, concrete, and the like, employed in sewers, manholes, foundations, etc., by the specifically light gases (Illuminating gas, etc.) and also their passage through minutest apertures in form of microscopically fine fissures, cracks, defects, and pores of materials employed in general building construction. This explains the case of gas entry, through foundations and its passage from the sub-soil into underground structures, even if all joints are apparently tight.

Gas mains and house service pipes and connections in general are closer to the surface of the street than the underground structures of sewers and water mains. Not a few of the gas distributing pipes are situated above the frost line. If a pipe leak is small in area as one tenth of an inch to develop the discharge therefrom would be 7,200 cubic feet daily. If free entry of the escaping gas were permitted to a large sewer pipe, having a capacity of 72,000 cubic feet, and 64,800 cubic feet of air were added, a highly explosive gas-air mixture would be formed, which upon ignition by flame or spark would result in a violent explosion.

The discovery of breaks and leaks is much more dif-

ficult, particularly in winter, when the surface soil is frozen. The gases then diffuse and move about in the sub-soil through interstices, always taking the path of least resistance and thus travel through considerable distances filling any earth pockets or crevices, enroute, while searching for an exit through porous or defective basement walls into buildings, or through faulty joints into drain pipes, or through defective connections of the latter with the sewer, and thereby be drawn into the sewer when an inward pull exists therein, or pressed back into surrounding soil when the pressure is directed outwards, thus rendering the discovery of the actual location of leaks difficult. These changes of direction can occur through variations in the meteorological conditions in a manner analogous to those happening in underground workings containing gases, such as mines. Thus periodicity of the presence of gas and complaints arising therefrom can occur.

Then again we have the possibility that the earth fill around the sewer might be of a shaly character which would facilitate the passage of gas through the sub-soil, a condition which would allow the formation of relatively large gas pockets and would admit of free interchange of gas according to meteorological conditions.

Heavy Traffic Increases Liability to Breakage

The adoption of hard surfaced road beds, and heavier trucks and ladings with their more rapid movements and attendant stronger earth vibrations, has increased the liability to injury and breaking of mains pipes and the more fragile portions of the connections of gas distributing systems. These dangers are further enhanced when the earth in which the gas pipes are embedded is frozen thus reducing its yielding qualities.

Reference has already been made and consideration given to the liability which devolves upon gas companies, not only in relation to the efficient and proper maintenance of their distributing systems, but also for the testing for and determination of the presence of illuminating gas in the earth, and subterranean systems or structures adjacent to and distinct from their own systems; also for the investigation of complaints concerning gas within buildings, and originating from any portion of their systems. It is the duty of the gas distribution companies to examine and supervise all conditions which may effect its properties, only thus will be maintained a safe-guarding policy against explosions in subterranean structures.

Records show that no well considered effort is instituted by the authorities to determine the nature and character of the gases which enter buildings nor proper investigation initiated to identify the gas which exists in sewer systems, its flammability, explosibility, or approximate percentage. One of the first indications of trouble usually comes from householders complaining of gaseous odors and ascribed by them to different sources such as gasoline, sewer gas, dirty gas or illuminating gas.

Sewer Gas

The term "Sewer Gas" is sometimes given the gaseous odor observed because of the most appealing feature to the observer in its similarity to that frequently emanating from, or found in, sewers. While it is a complex gas mixture, it is generally identified by the presence of a very small quantity of hydrogen sulphide, which it contains, or possibly traces of other organic compounds of peculiar and undetermined nature, the odor of which is most obnoxious to most persons. This sewer gas, as is found in the sewers is non-inflammable, non-explosive, even when in large quantity, and in high state of concentration. Therefore, from this viewpoint, it may quite properly be eliminated as the cause of flame or explosion.

Dirty Gas

The term "dirty gas" is, in general, applied to a mixture of "sewer gas" associated with odoriferous gases which, as a whole, possess an obnoxious odor with no distinctive characteristic other than the disagreeable odor to the observer, who cannot identify it as any one of the familiarly known gases. An example is sewer gas mixed with illuminating gas or traces of phenolic like substances. Both "dirty gas" and "sewer gas" which have been identified as such by intelligent persons, have been found on examination, in a large number of instances, to contain illuminating gas.

In a great many cities where there have been heavy explosions in the sewers there has been in each case bad ruptures and the sewers and upheaval of the earth and pavement over the sewers are due to the arch of the sewer being shattered, the earth cover and street pavement have settled into the cavity thus formed.

A sudden change in temperature with a rising thermometer would have the effect of setting gases in the sewers more or less in motion and mixing them and changing the proportions. In most cases of underground explosions the exact point or method of ignition is very rarely established. Bends in sewers, changes of grade and changes in sizes are all elements that have been shown to have direct bearing on sewer explosions.

Present Method of Surfacing Streets Important Factor

The present day method of surfacing streets, either by tarvia or concrete, is a most important factor in the changing condition of city life.

1st. That it does not permit surface water to soak away as was the case with the former dirt or cobble stone pavements, and that the only outlet for water or liquids in the streets is through the catch basins and the connecting sewers, which may at times well over-tax the sewer capacity.

2nd. The sealed street, in a degree, is responsible for bringing about underground explosions, where in the past gases below the surface could readily escape and be dissipated in the open air, today they collect beneath the street surfacing and are obliged sometimes to travel long distances before they can find a point of escape, meanwhile naturally filling any underground cavity in their path.

This passage of gases through the earth may also be a factor in changing some of their characteristics.

Gases that have been found in sewers vary in density from lighter than air to two or more times heavier than air. This last is the average density of gasoline vapors. In numerous tests made it has been found that most of

Southern Resort Swept by $1,500,000 Fire

The entire northern extension of Wrightsville Beach, N. C., one of the south's oldest summer playgrounds, was reduced to ruins in six hours by a fire which caused $1,500,000 damage. The fire destroyed 108 homes and cottages, and the palatial Oceanic Hotel. Fire of unknown origin was fanned by high winds, and scenes as the one illustrated became common during the course of the conflagration.

the gasoline vapors are usually found two or three inches off the surface of the running water in the sewer.

Tests have shown that much more dangerous conditions arise in sewers with gasoline leakages in small quantities with time intervals than the deposit of a large amount in bulk, as in the latter case most of it runs off in liquid form with the sewage before it has an opportunity to vaporize.

Underground street structures are increasing each year in all cities, and the complex problem of their location and maintenance adds greatly to the duties of the city Engineering Departments.

Too much fresh air cannot be allowed into any sewer, especially those with submerged outlets, and also too much care cannot be given to the removal of any possible gases that may get into sewers before they arrive at a point of the explosive range.

This illustrates very clearly why cities should be properly equipped with apparatus and men to scientifically ascertain what the vapors are so that their source may be determined and improper conditions corrected.

Sewers should be amply ventilated by means of stacks with ventilating fans connected to remove as much as possible of the gases that are bound to collect in the sewers and permit the replacement of the gases by clean air.

There is no question of half-way measures, the law must be mandatory and prohibitive of emptying any volatile liquids into the sewers if you expect even a degree of safety. The householder has not wilfully attempted to create a condition of grave danger, but through lack of knowledge of possible consequences dangerous conditions have been created and must be stopped.

Sewers connecting to gasoline storage and service stations, as well as cleaning establishments or other manufacturing establishments who in the course of their business use gasoline or other volatile liquids, which are readily vaporized, may be safe-guarded if either the connection with the sewer is prohibited or if permitted must be made in such a manner that volatile liquids are not permitted to enter the sewer.

Then it becomes necessary to have proper and efficient inspection and records to determine that even the most approved apparatus is being properly used and not abused.

Regulations Safeguarding Handling of Gasoline

It should always be borne in mind that in handling gasoline all possible safeguard should be adopted, as every day actual practice is presenting fatal injury or large property damage caused from sheer carelessness or ignorance.

The matter of tank wagon delivery is a point that should be considered and steps taken to regulate the speed to avoid collision or tipping over and the subsequent igniting of the gasoline or dumping many gallons of gasoline in sewers. Two men were killed and many thousand dollars' worth of property was damaged in Pittsburgh due to an accident of this nature.

Another matter for consideration is the location of storage and refining stations on the banks of the rivers or canals, thereby in an event of escape of burning oils, due to fires, the great possibility of the same spreading, due to the oils and flames floating on the water. Recently there have been a number of fires due to these conditions.

Central Bureau for Investigating Complaints

Many cities have established a Central Bureau for investigating complaints. The Central Bureau should be in control of a person having a good general scientific and technical training and knowledge, possessing full appreciation of the properties and behavior of matter and materials, acute powers of observation, and appreciation of detail and capable of immediate comprehension of the relative values of such observations; also devising and applying practical methods for determinative investigations where difficult and observational problems arise, he should possess sufficient knowledge and appreciation of hazards to draught by-laws and regulations governing them, and be able to interpret and see to the administration of such regulations; at the same time he should be available for consultive and co-operative purposes to the various departments which have their direct control and enforcement.

(a) While general conduct of the primary investigation of a report upon matters forming subjects of complaint would rest with the department directly concerned, copies of all reports of investigations should be forwarded daily to the administrative officer of the complaint bureau for his view and consideration. If, in his opinion, the complaint has not been sufficiently investigated, or if further information and action be deemed necessary, he should have authority to direct that such be made or secured, or personally to inspect in order to be assured that the investigation has been properly conducted and efficient measures of relief adopted.

(b) The inspection of sewers and underground conduits, with their accessories, should be practically continuous. Every trunk sewer system including water-valve and meter chambers and ventilator covers, should be thoroughly inspected at least once every month, and chief laterals not less than six times each year, or more often if required, with particular attention being paid in all cases to the presence of inflammable and explosive gases and effluents, conditions of ventilator covers, general air conditions and other features. The smaller laterals should not be neglected. Further, where opportunity exists, very frequent examination for inflammable explosive gases should be conducted in all other utility service manholes and systems which are, due to their construction and locations, frequently the best indicators of adventitious gas in the sub-soil of their surroundings and the districts in which they are situated.

(c) In frequent surveys of the sewer systems it has been observed that there are numerous points within them which are potential danger zones. All such points should be frequently inspected and positively ventilated to prevent the accumulation of gas mixtures thereat, and, when opportune, should be improved physically.

(d) Actual control of all street cuts and openings should be within the city. At present time some utility companies are privileged to undertake such works without the city's supervisory jurisdiction or knowledge, while certain cuts made, such as those incidental to the installation of private drain connections, are not subjected to civic direction or inspection, in relation to their possible interference with existing underground structures and systems.

(e) Steps should be taken in the matter of securing, preparing and correlating data relative to subterranean systems, not only belonging to the city, but such as are in possession of utility companies or are incidental to industrial or commercial enterprise. There should be available for use at all times diagrammatic charts and records completely informative of all such services as existing or contemplated.

Equipment of an Emergency Truck

In the city I have the privilege to represent, we have gone through two sewer explosions, one in May, 1929,

and the other in January, 1931. Following these explosions a thorough investigation was held. On the recommendation of the investigating committee a Complaints Bureau was established with sufficient staff to operate a 24 hour service with an emergency truck fully equipped with the following gas detecting instruments:

(1) Jones Gas Detector. "Will detect any explosive gas or mixture of explosive gases in concentrations from 25% of the lower explosive limit to above the upper explosive limit. Will detect a deficiency of oxygen caused by excessive quantities of inert gas."
(2) Burrell Gas Indicator. "Is designed for use in any single combustible gas in proportions below lower explosive limit, but will detect any explosive gas or mixture of explosive gases in small quantities."
(3) Two Carbon Monoxide Detectors. "Indicates carbon monoxide only. Will detect concentrations as low as 0.05% which is well below the danger point to breathing."

Gasoline service stations, garages, laundries and cleaners are examined periodically during the year as to the disposal of petroleum products, etc., with all information recorded and conditions remedied where cases warranted. A number of illuminating gas pipes discovered in underground chambers were by-passed and removed.

Detection of Explosive Gases

Regular routine inspections for the detection of explosive gases were carried out in a systematic manner covering the city. Any section considered as being in a danger zone received special attention. In performing this work the approximate number of underground chambers carefully examined included: Routine Gas Investigations; Sewer Systems; Gas Company, repair operations; Drain Complaints; Odor Complaints; Service Stations and Garages; Dyes and Cleaners; Laundries; Water Department Valve and Meter Chambers; Sewer Manholes; Bell Telephone Co. Manholes; Electric Co. Manholes. Total number of complaints investigated and inspections made were 17,559.

This in addition to inspections made by Health and Fire Department Officials. Besides tests taken with gas detecting instruments, air and liquid samples were also obtained as a further means of determining the quantity and nature of the various gases and liquids encountered during inspections of underground chambers. At times liquid and gas samples were taken from sewers and forwarded for laboratory tests. As a result of inspections by the Bureau 57 gas leaks were detected and repairs made to same.

(Excerpts from a paper read before the annual convention of the Dominion Association of Fire Chiefs.)

Fire Losses Lowered in 1933

A summation of fire losses in the United States for 1933 show a reduction of twenty-eight per cent over the total figures for 1932, according to monthly estimates issued by the National Board of Fire Underwriters. In only two years since 1918 have the yearly losses been less than $320,000,000. The two low years were 1919 and 1928.

The December fire losses were $27,626,439, an increase of 23.03 per cent over those of November, but a decrease of 29.5 per cent from those of December, 1932. The following table shows the losses month by month for the past three years:

	1931	1932	1933
January	$44,090,449	$39,224,783	$35,547,565
February	41,776,051	39,824,622	36,661,481
March	44,074,362	49,189,124	35,321,248
April	41,423,764	43,822,233	27,825,970
May	37,835,273	39,270,524	24,338,714
June	33,368,378	34,338,670	21,578,609
July	33,024,594	32,982,434	20,004,049
August	31,917,630	31,425,931	23,626,505
September	33,202,986	30,972,318	20,447,571
October	35,501,530	30,734,458	21,465,382
November	35,287,641	31,167,708	22,454,200
December	40,514,368	39,190,506	27,626,439
	$452,017,026	$442,143,311	$317,897,733

HOW SMALL CITY DEPARTMENT PLAYED HOST TO NEEDY

Geneva, N. Y., Men Conducted Cafeteria For Unfortunates Who Could Not Pay For Food—City to Entertain State Convention

By E. J. Schreck,
Geneva, N. Y.

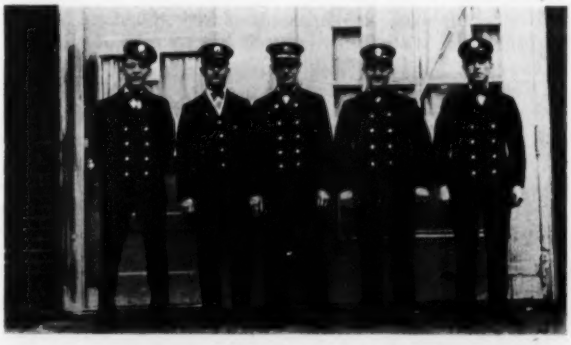
DURING the worst period of the depression, commencing in the early winter of 1932, Geneva, N. Y., firemen opened a cafeteria where the general public, including the itinerant and wayfarer, could obtain good food without cost, provided they were unable to pay for it. This work continued in operation until April of last year. The place closed its doors after serving Easter Sunday dinner, the sum total of meals served reaching nearly 50,000. It was only closed when there was no further necessity for such a charity.

Rather unique was the firemen's cafeteria. Fitted not unlike any lunch room or restaurant, it occupied equipment quarters of the old Kanadasaga Steamer Company in Fire headquarters. It had no cash register and was operated on regular hours, breakfast, dinner and supper periods.

Privacy was given those unfortunates who ate there, for the curious and the person financially able to purchase food were not admitted. Those who ate there were asked to move on immediately after being served.

Firemen Take Responsibility for Work

Firemen took upon their own shoulders the work and responsibility of providing so practically for those who were in want. They prepared, cooked and served all the food and kept the place clean and cheerful, even to a bouquet of flowers on each of the six dining tables.



One Detail of Firemen Cafeteria-Workers

Left to right, Herbert Van Auken, Stewart Brooks, Chief Louis McGuigan, Richard Phillips and David Corcoran of the Geneva, N. Y., Fire Department.

Charles Lain, driver of the Hook and Ladder truck was head chef. His assistants were the five paid drivers and tillermen, and the volunteer firemen who were unemployed or at leisure.

When the alarm sounded during meal time as it did on several occasions all but one of the firemen scurried to duty. The lone fireman cared for all duties in the emergency. Sometimes a fire truck was manned by men wearing white aprons and caps, rather than the regulation helmet, rubber coats and boots.

City to Entertain Volunteers' Convention

Already plans are under way in Geneva for the 1934 convention of the New York State Volunteer Firemen's Association convention, to be held four days, Tuesday to Thursday, August 21, 22, 23 and 24.

Francis J. Beatty, President of Nester Hose Company, is general Chairman of the committee in charge, which also includes: L. A. Currey, Vice-Chairman; W. E. Sipple, Secretary; J. F. Goodman, Treasurer, and A. B. Leonard, Recording Secretary.

Seventeen other committees have already been selected, many of which are already functioning. Every detail connected with the forthcoming convention is being worked out well in advance, in order that there will be a minimum of inconvenience and disorder and a maximum of protection to the assemblage expected.

The Cost of False Economy

By CHIEF JOHN J. TOWEY,
Fire Department,
Newark, N. J.

Chief John J. Towey

ARE Fire Departments getting the short end of the "New Deal"? This is a very important subject and in the short space of a paper it is almost impossible to do it justice.

We, who have started from the ranks and worked our way up to the position of responsibility of maintaining an efficient and effective Fire Department, must not allow self-appointed prophets and critics, whose experience is mostly theoretical, to break down the morale of our fire-fighting forces and to tear down the structures of fire prevention and efficiency in fire-fighting that we have fought so hard for many years to accomplish.

Economy in government is a very splendid thing and we all subscribe to getting a dollar's worth of efficiency for a hundred cents spent, but, I submit, it is false economy to drastically cut down the cost of maintaining a Fire Department, if in making these cuts it impairs the efficiency of the department. A low insurance rate is one of the great selling points that is used in attracting industries to a city. It likewise reduces the overhead of the merchants within the confines of a city. This low insurance rate can only be justified by the continued existence of an efficient and up-to-date fire-fighting organization, with modern equipment and a well planned and thought out scheme of fire prevention. This, of course, cannot be accomplished in a haphazard manner. It requires the ability of well-trained and experienced men to guide it and in order for it to be successful, the public must have confidence in the ability of the men who are at the head of the Fire Departments.

Conflagrations in the city are not only expensive, but injure the reputation of the city itself, through the wide publicity they receive in the various newspapers.

Responsibility Rests Upon the Chief

The responsibility of maintaining an efficient Fire Department rests entirely upon the shoulders of the Chief of the department and in the case of any breaking of the morale of the fire-fighters under him or the inadequacy of the proper equipment to combat all types of conditions, whether it be a fire in a cellar, in a mercantile building, or the protection of life in an industrial building, or the saving of lives in a dwelling, the responsibility is his.

To whom should the credit be given for the installation of a high pressure water system throughout the city; for the demand of sprinkler equipment in multiple tenanted buildings and in extra-hazardous types of industries? To whom should the credit be given for the installation of stand-pipes and hose in all industrial and mercantile buildings; for the equipping of the apparatus with life-saving devices, scaling ladders, nets and smoke masks that enable the fire-fighter to penetrate into the heart of the fire with the least amount of danger? To whom should go the credit for the separating and segregating of hazardous manufacturing lines such as chemicals and celluloids, placing them in sections where they will do the least amount of harm should there be a fire? This is only part of the many intricate tasks in fire-fighting that devolves upon the head of the experienced Chief of a well equipped Fire Department.

Importance of Fire Prevention

Fire prevention is even far more desirable due to the tremendous amount of saving, both for the insurance companies and individuals and while insurance companies have carried on a very extensive advertising campaign, showing the terrific waste in fire losses throughout the country, the actual work of preventing these fire losses is the direct responsibility of the Fire Chief.

To me, it seems the height of impertinence when the so-called "Engineers," whose experience is gained from the knowledge of the various Fire Chiefs throughout the country and whose surveys are purely theoretical, based entirely upon what they would like to have happen but which nature always controls, to send in reports over the heads of the responsible authorities, based entirely upon the question of "dollar saving" rather than upon "dollar protection," without first consulting the man who must bear the odium for any mistakes that occur in a Fire Department.

The Chief Should Be Consulted

True, the advancement of the motorizing of fire apparatus in the country has had a great beneficial effect upon the efficiency of the department, enabling the Fire Department to respond more quickly and after all, we know a minute saved in responding to a fire is very often in a great measure a help to the quick extinguishing of the blaze at its inception. In many cases where it is wise and advisable, the Fire Chief can suggest the merging of various companies, but to haphazardly and peremptorily demand the reduction of the personnel and the consolidation of fire houses without a knowledge of surrounding conditions that makes it necessary to have these houses well manned and properly placed by men who have never handled a line of hose or lifted a ladder, or braved the dangers that are incidental to fire-fighting is a question that should be definitely decided by the convention of the I. A. F. C., with a view of calling to the attention of the governing bodies of the City, the merchants and manufacturers and general public, the necessity in these days of stress, to keep up the fire-fighting units to their highest efficiency.

Unjust Criticism

No Fire Chief ever turns a deaf ear to constructive criticism or friendly advice. There is no department in the municipal government that has co-operated in the past with more friendliness with these various organiza-

tions created by insurance companies and who are more willing to accept reasonable recommendations, than the Fire Department and their Chiefs throughout the country, and it comes with very poor grace for the representatives of these organizations to present their criticism of the Fire Departments of the country to the municipal governing bodies, without first consulting the head of the Fire Department, and ascertaining from him the need of the companies that may not, in the opinion of the company's representative, be necessary. A little more friendliness shown to the heads of the Fire Department will bring about better results for all concerned.

(From a paper read before the Annual Convention of the International Association of Fire Chiefs.)

I. A. F. C. DIRECTORS VOTE TO MEET IN MILWAUKEE DURING AUGUST

Accept Invitation by Chief Steinkellner To Hold Convention in Wisconsin City—Date Set Tentatively for Last Week in August

THE annual meeting of the Board of Directors of the International Association of Fire Chiefs was held at the Hotel Edison in New York on January 17.

All district organizations with the exception of two were represented, and all officers of the International were present.

Chief Selden R. Allen
President, I. A. F. C.

As no other satisfactory invitation for this year's meeting was received, Chief Peter Steinkellner of the Milwaukee, Wis., Fire Department, invited the Association to hold the meeting at Milwaukee. This offer was accepted unanimously. The date has been set tentatively for the last week in August, although Chief Steinkellner has been given authority to change the date if necessary, to fit in with local arrangements.

Civil Service Committee Appointed

Carrying out the instructions of the Convention aboard the "Seeandbee," President Selden Allen appointed a committee to study Civil Service laws in various states and to present at the next annual Convention suggested legislation suitable for enactment in any state, placing fire department members, including the rank of Chief, under Civil service.

The committee consists of the following members:

Chief Joseph N. Sullivan, Utica, N. Y., Chairman; Chief Peter Steinkellner, Milwaukee, Wis.; Chief Ralph J. Scott, Los Angeles, Cal.; Chief John J. Towey, Newark, N. J., Chief Rod Gambrell, Dallas, Tex.

Urge P.W.A. Funds for Fire Apparatus

Following considerable discussion as to the present status of PWA aid for fire department improvements, a motion was made and unanimously carried that the Directors of the Association go on record as urging the PWA officials to include fire apparatus as eligible for PWA loans, and to grant such loans to municipalities for replacement of obsolete apparatus or addition of new and needed machinery. Copies of the resolution were ordered sent to officials of the Public Works Administration at Washington.

Additional Funds for Departmental Improvements

A suggestion made by I. H. Case, Director of Publicity of the Association and Vice-President and General Manager of FIRE ENGINEERING, that a new source of taxation for fire department improvements be studied was approved by the Directors and Mr. Case was appointed to make further study of the subject and report at the Milwaukee Convention.

Ex-Chief Dougherty Honored

In view of his long activity in the fire field, and in recognition of his active interest in the Association, Thomas J. Dougherty, former Assistant Chief of the New York Fire Department, was recommended for Honorary Life Membership in the International Association of Fire Chiefs. This recommendation by the Board of Directors, which was introduced by Chief Tierney of Arlington, Mass., and seconded by Chief Robert Bogan, of Baton Rouge, and carried unanimously, will be presented before the Annual Convention when it assembles in Milwaukee.

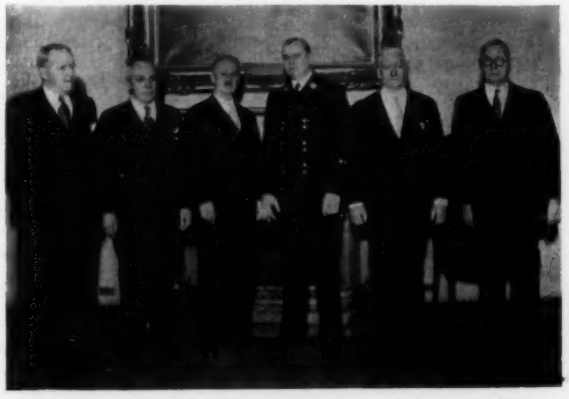
Those in attendance at the meeting included the following:

Chief Selden R. Allen, Brookline, Mass., President; Chief John J. Towey, Newark, N. J., First Vice-President; Chief Charles J. Brennan, San Francisco, Cal., Second Vice-President; Ex-Chief James J. Mulcahey, Yonkers, N. Y., Secretary-Treasurer; Chief Peter Steinkellner, Milwaukee, Wis., Director from the Great Lakes Division; James O'Donnel, Supt. of Salvage Corp., St. Louis, Mo., Director from the Missouri Valley Division; Chief Robert Bogan, Baton Rouge, La., Director from the Southwestern Division; Chief Daniel Tierney, Arlington, Mass.; Director from the New England Association; Fred Shepperd, New York City, Headquarters Manager; I. H. Case, New York City, Director of Publicity; and the following guests: Ex-Chief Thomas J. Dougherty, New York; Deputy Chief John J. T. Waldron, New York City; George Morley, Gamewell Company; Joseph H. Green, and Messrs. Gilleo and Bowker of the Eureka Fire Hose Company; C. K. Ball, Mack-International Motor Truck Corporation.

Chief Daniel Tierney was appointed by President Allen as Chairman of the Exhibit Committee.

McElligott Sworn In as Commissioner

Legal obstacles having been removed, Chief John J. McElligott of the New York Fire Department is now both Chief and Fire Commissioner. He was sworn in on January 18. The New York Municipal Assembly changed the local law to permit him to hold both posts, and the state legislature protected his pension rights by enacting necessary legislation.



I. A. F. C. Directors Visit Commissioner McElligott

The Directors of the International Association of Fire Chiefs, while in New York City attending their annual meeting, visited John J. McElligott who had just taken the oath of office as Fire Commissioner. Those shown above are, from left to right: Chief Charles J. Brennan, Second Vice-President, San Francisco, Cal.; Chief Robert Bogan, Director, Baton Rouge, La.; Chief Selden R. Allen, President, Brookline, Mass.; Fire Chief and Commissioner McElligott; Chief Daniel B. Tierney, Director, Arlington, Mass., and Chief of Salvage Corps James T. O'Donnell, Director, St. Louis, Mo.

Chelsea, Mass., has completed plans for the construction of a new fire alarm headquarters to cost $80,000. A federal loan has been obtained.

Culpeper, Va., a community of 2,500 persons is mighty proud of its 1933 record. It has not had a fire loss the entire year. There were eleven fires which were extinguished without loss. The unusual record is attributed to the inspection work of the firemen.

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

SALARIES PAID FIREMEN AND OFFICERS

JUST as keen business executives watch the methods of competitive organizations, members of Fire Departments are very much interested in the wage scale of neighboring departments. When the question of expenses is presented for open discussion at meetings of the City Council, it is always a tabulation of figures from neighboring departments that is introduced to support arguments.

Herewith is an impartial presentation of information received in answer to a question on salaries, the full text of the question being presented in the box on this page. In the box on the following page is the problem that will be published in the next issue. Should you have some comments that you would like to add to the next discussion, you are invited to write to the "Round Table Editor," FIRE ENGINEERING, 24 West 40th Street, New York, N. Y.

Discussion of the Question

George B. Goff, Chief Oklahoma City, Okla.: Firemen are paid in seven grades, first to seventh grades, inclusive as follows: First grade, $132; second grade, $124; third grade, $115; fourth grade, $108; fifth grade, $99; sixth grade, $95; seventh grade, $50. For the officers the pay is Chief, $274; Assistant Chief, $192; Deputy Chiefs, Master Mechanic and Superintendent of Fire Alarm, $170; Secretary and Captains, $149; Lieutenants, $146; Engineers and Mechanics, $141; Drivers and Tillermen, $137.

Nothing is taken out of the pay. The pension fund is supported by two per cent of all fire insurance written in the state.

All clothing, including uniforms, turn-out and all necessities used by firemen are furnished by the members. The city only furnishes the badge and helmet.

H. R. McMillan, Chief, Jacksonville, Fla.: The basic pay for privates is $123.75 for the first six months, $130.50 for the second six months, $135 for the third six months, $141.75 after eighteen months, $148.50 after five years, $155.25 after ten years and $162 after fifteen years. Engineers receive $2.25 in addition to the basic pay, Lieutenants, $6.75 in addition to the basic pay and Captains, $11.25 in addition to the basic pay. The Chief receives $360; Deputy Chief, $276.75; First Assistant Chief, $220.50; Second Assistant Chief, and Third Assistant Chief, $204.75.

One per cent of the pay is taken out for pension. The city furnishes uniforms.

Ray H. Hare, Chief, Yakima, Wash.: The pay schedule is Chief, $187.50; First Assistant Chief, $180; Second Assistant Chief, $162; Mechanic, $162; Captains, $139.50; Lieutenants, $130.50; Firemen, first year, $117; Firemen, second year, $126; Electrician, Inspector and Drivers, $126.

Two per cent is deducted for pension and relief fund. Members receive no allowance for uniforms. Helmets, turn-out coats and trousers are furnished by the city.

Clyde Scott, Chief, Provo, Utah: The pay runs from $60 a month to $125. Nothing is taken out for firemen's relief or pensions. Last year, for the first time, the city furnished uniforms. In 1932 one-half a month's salary was returned to the city in place of making a reduction in salaries. In 1933, one month's salary was returned to all city employees whose salary is $100 or more.

Hugh F. Morris, Chief Engineer, San Mateo, Cal.: Firemen are paid $165 a month. No pension fund exists. Firemen must provide uniforms, helmets, boots, pants and coats.

G. P. McGillen, Chief, Appleton, Wis.: The scale is Chief, $2,400 a year; Assistant Chief, $1,840; Second Assistant Chief, $1,728; Captain, $1,620; Mechanic, $1,620; Assistant Mechanic, $1,566; Electrician, $1,835; Assistant Electrician, $1,620; Deputy Inspector, $1,512; Private, first year, $1,296; Private, second year, $1,350; Private, third year, $1,404; Private, fourth year, $1,458; Private, fifth and all subsequent years, $1,512.

One per cent is deducted from the pay for the pension fund. The city furnishes rubber coats, boots and helmets. The men buy their own uniforms.

W. M. Seeley, Chief, Middletown, N. Y.: The men received a ten per cent cut in 1932. They now receive $1,719 a year. The amount taken out per year for the pension depends upon the age of the man when he went into the service. All paid men must provide their own uniforms.

O. J. Parker, Chief, Atlanta, Ga.: The basic pay for first class firemen is $175 a month and at present this is subject to a twenty per cent discount. One per cent is deducted for pension. Firemen must provide their own uniforms.

John F. Hollis, Chief, Hingham, Mass.: Firemen receive from $1,800 to $2,000 a year. Nothing is taken out for pension. Each man is allowed $50 a year for uniforms.

Thomas Carroll, Chief, Fairfield, Conn.: At present firemen are receiving $169.20 a month. Nothing is taken out for pension or relief fund. When the men are first appointed they are supplied with uniforms. After that they must provide their own.

George A. Philbrook, Chief, Middleboro, Mass.: The scale of the permanent men follows: Deputy Chief, $1,872 a year; Captain, $1,731.60; drivers from $1,544.40 to $1,450.80; Firemen from $90 to $180 a year. The men provide their own uniforms. The 1933 salary is ten per cent lower than the 1931 scale.

Harry Hutton, Chief, Salem, Ore.: The men received a ten per cent cut the first of 1933. The pay is now Chief, $180; Assistant Chief, $148; Engineer, $148; four-year firemen, $121.50; first-year firemen, $112.50. No allowance is made for uniforms.

Harry Voshell, Chief, Indianapolis, Ind.: Firemen are paid from $1,425 to $3,967.20 a year. Each month $2 is taken out for the pension fund. No allowance is made for uniforms.

Anthony Johns, Chief, Saint Marys, Ohio: The firemen's pay is $110 a month. We have no pension fund. The men buy all uniforms and night bunker clothes.

Ralph Eddie, Chief, Webster Groves, Mo.: The Assistant Chief receives $170; Drivers, $152.50 and Pipemen, $142.50.

HERE IS THE PROBLEM

How much are the firemen of your department paid per month?

How much of the pay is taken out for pension and relief fund?

Does the pay include allowances for uniforms or must the men provide their own?

The men provide their uniforms while the city furnishes rubber boots and bunker suits.

Richard Smith, Chief, Rushville, Ind.: Firemen are paid $94 a month. Nothing is taken out for pension. The men buy their own uniforms.

Thomas F. Burns, Chief, Bridgeport, Conn.: The men received a twenty per cent cut on April 1, 1933. The original scale is Chief, $5,500 a year; Assistant Chiefs, $3,500; Captains, $3,000; Lieutenant, $2,700; Grade A firemen, $2,300; Grade B firemen, $2,200; Grade C firemen, $2,100.

Two per cent is deducted from the salary for the pension fund. No allowance is made for uniforms.

Leo G. Urbanski, Chief, St. Joseph, Mo.: Regular firemen are paid $130 a month and Captains, $140. One per cent of each man's pay is deducted for the Firemen's Pension Fund. The men have to buy their own clothes and uniforms.

George Alford, Chief, Pine Bluff, Ark.: The salaries are Chief, $140; First Assistant Chief, $120; Captains, $96.50; Drivers, $88; Firemen, $72. This represents a twenty per cent cut. No allowances are made for uniforms or clothing. Nothing is taken out for a pension fund.

W. A. Brown, Chief, Salisbury, N. C.: Substitutes are paid fifty cents a fire; partial firemen, $20 a month; regular firemen from $90 to $140 a month. The Chief receives $175. Nothing is deducted from the pay. The city provides uniforms for full time men.

Lloyd Gramley, Chief, Aurora, Ill.: Firemen receive $103.12. From this $1.50 is taken out for pension and $50 a month for the relief fund. Firemen buy their own uniforms.

Thomas Milburn, Chief, Jeannette, Pa.: Firemen receive $121.50 a month. Nothing is deducted for funds. They provide their own uniforms.

Ed Dubois, Chief, Monroe, Mich.: Firemen are paid $130. Nothing is taken out. The city furnishes night pants, rubber boots, coats, helmets and caps but not uniforms.

James M. Duncan, Jr., Chief, Alexandria, Va.: A part-time Chief is paid $157.50 a month; chief operators from $117-$126 a month; operators from $112.50-$121.50 a month.

We do not have a pension fund. The men are insured under the Workmen's Compensation Act of Virginia.

The city appropriates $895 for uniforms for fifteen paid men of the department.

W. F. Woehler, Chief, Akron, Ohio: The scale is Chief, $3,225.12 a year; First Assistant Chief, $2,400; Second Assistant Chief, $2,310; Superintendent of Machinery, $2,126.40; Mechanic, $1,800; Assistant Mechanic, $1,658; Superintendent of Fire Alarm, $2,126.40; Assistant Fire Alarm Superintendent, $1,800; Captains, $1,800; Engineers, $1,658.40; Assistant Engineers, $1,606.88; Fire Alarm Operators, $1,559.28; First Year Firemen, $1,350; Second Year Firemen, $1,464.96; Third Year Firemen, $1,512; Firemen, Fourth Year, $1,559.28.

Six dollars is paid each year to the Relief Fund. The men provide their own uniforms.

Charles E. McIllhargey, Chief, Hibbing, Minn.: The scale is Chief, $300; Assistant Chief, $240; Mechanic, $205; Assistant Mechanic, $178.50; Captains, $178.50; Lieutenants, $175.50; Drivers, $168.50; Class A Pipemen, $165; Class B Pipemen, $157; Class C Pipemen, $150; Superintendent of Fire Alarms, $250; Lineman, $165.50.

No pay is taken out for pension or relief funds. Members of the Relief Association must pay their annual dues to receive any association benefits. The dues are $4 a year. In 1929 the men were given a raise of $2.50 a month to provide for their own clothing.

Emil A. Johnson, Chief, Boulder, Col.: For the first six months, the firemen's pay is $102; second six months, $105.25; third six months, $110.50 and fourth six months, $114.75; Captains, $119. These salaries have been in effect since a fifteen per cent cut.

Thomas H. Shipman, Chief, New London, Conn.: Firemen have recently been cut from $150 to $133.33 a month. Nothing is taken out for a pension fund, but the Council is thinking of taking something out for pensions. The men purchase their uniforms. I have tried several times to include this item in my budget but have been unsuccessful.

Ernest G. Beckert, Chief, West New York, N. J.: Firemen are paid $187.50. Two per cent is taken out for the pension fund. The relief fund is supported by a two per cent tax on all business done by foreign insurance companies. The men provide their own uniforms.

O. O. Ordway, Chief, Reading, Mass.: The Chief receives $193.91 a month; Deputy Chief, $172.16; Captain, $171.43; Lieutenant, $157.66; Privates, $157.66 and Callmen, $11.88. The odd figures are the result of a thirteen per cent cut on all money over $500. We must provide our own uniforms but rubber coats, boots, etc., are supplied.

Charles A. Reynolds, Chief, Willimantic, Conn.: Permanent firemen are paid $1,521 a year. We have no pension fund at present. The men purchase their own uniforms but the city furnishes the badge, coat, rubber coat, rubber boots, quick hitch suit, mittens and spanner wrench. The city-supplied equipment must be returned when the men leave the department.

George M. Kellogg, Chief, Sioux City, Ia.: First year firemen are paid $117.50; second year, $126 and third year, $135. One per cent is taken out for the pension fund. The men provide their own uniforms but the city supplies rubber coats and helmets. Last summer the pay was reduced ten per cent.

W. J. Gates, Chief, Glens Falls, N. Y.: The Chief receives $194.25; Assistant Chief, $168; Captain, $157.50; Junior Captain, $152.25; Master Mechanic, $157.50; Engineer, $147; First Grade Fireman, $141.75; Second Grade Fireman, $126.

One per cent of the pay is deducted for the pension fund. Members of the department must provide their own uniforms.

E. R. Reddy, Chief, Clinton, Mass.: Firemen are paid $25.50 a week. They must provide their own uniforms. Nothing is taken out for pensions.

Maurice Keating, Chief, Rochester, N. Y.: Firemen are paid $175 a month less a ten per cent donation. Two per cent is deducted for the pension fund. The city provides helmets and the rubber wearing apparel.

Charles Huber, Chief, Endicott, N. Y.: First grade firemen receive $139.50 and Captains, $144. Nothing is taken out. Men provide their own uniforms.

Daniel H. Shire, Chief, Mason City, Ia.: The Chief is paid $2,400 a year; Captains, $1,680; Lieutenants, $1,590; Fireman First Class, $1,500; Firemen, Second Class, $1,440; Firemen, Third Class, $1,380; Probationary Firemen, $1,200. One per cent is taken out for the pension fund. The men provide their own uniforms.

Sam Bellipanni, Chief, McComb, Miss.: Firemen are paid $60 a month; Captain, $75; Chief, $100. Twenty-five cents a month is taken out for the relief fund. We are not wearing uniforms.

A. L. Duckett, Chief, Asheville, N. C.: Firemen receive $126 and nothing is taken out. The city furnishes all equipment.

James W. Gibbs, Lieutenant, Cleveland, Ohio: First grade firemen are paid $2,419.68. Less a ten per cent cut and a 26-day lay-off the amount is brought down to $1,880.32. The pension fund receives $12 a year, and from $6 to $12 a year for the relief funds depending on the cash balance. Men furnish their uniforms and the necessary work clothing.

R. A. Alexander, Chief, Portsmouth, Va.: Hosemen are paid $4.70 a day. One per cent is deducted for the pension. The men provide their uniforms.

Michael H. Stapleton, Chief, Oneonta, N. Y.: First year firemen are paid $135 a month; second year, $140 and third year, $145. Five per cent is taken out for the relief fund. The pay includes an allowance for uniforms.

James Ames, Chief, E. St. Louis, Ill.: The Chief is paid $220.50; Assistant Chief, $175.50; Captain, $139.50 and Pipemen, $130.50. One per cent is taken out for the pension fund and nothing for the relief association. The city pays for helmets and the men buy their own uniforms.

HERE IS THE PROBLEM FOR THE NEXT ISSUE

What organization, if any, do you have among the firemen so that calls for blood transfusion can be readily answered and with the proper type blood?

Do you believe that firemen should be subject to call for blood transfusions since medical students and others are willing to sell blood at standard rates?

Do you give firemen any special attention after they have been subjected to blood-letting, to prevent possible infection while working at fires?

Selden R. Allen, Chief, Brookline, Mass.: Firemen are paid $2,190. Nothing is taken out for pension or relief funds. Firemen pay for their own uniforms.

Peter Bonacuse, Clerk, Scranton, Pa.: Firemen receive $170 from which a ten per cent deduction is made. One per cent is taken out monthly for pension and one half of one per cent for the relief fund. The men buy their own uniforms.

George A. Wood, Chief, Niagara Falls, N. Y.: Firemen are paid $150. One per cent is taken out for pension. Caps, rubber coats and helmets are furnished.

George Hoherd, Chief, Temple, Tex.: Firemen receive $60 a month. The city pays for caps.

August Miller, Chief, Wisconsin Rapids, Wis.: Firemen are paid $120 from which one-half per cent is deducted for pensions. The men must provide their own uniforms.

George Boughner, Chief, Grand Rapids, Mich.: Firemen receive $1,568.75 a year less two per cent for the pension fund. The men provide their own uniforms.

S. C. Boaz, Chief, Henryetta, Okla.: The Chief receives $125, a cut of $50, and firemen are paid $100, a cut of $40. No allowance is made for uniforms.

E. I. Kingsley, Chief, Aberdeen, S. D.: Firemen are paid $112-$136 a month. They are allowed rubber coats and boots.

Thomas Farnsworth, Chief, Chippewa, Wis.: The Chief is paid $140 a month; Assistant Chief, $130; Mechanics and Drivers, $125; Pipemen, $120. One per cent is taken out for pensions. No allowance is made for uniforms, etc.

William F. Mader, Chief, Bucyrus, Ohio: Firemen are paid $110 a month the first year, $120 the second year and $130 after that period. Nothing is deducted for pensions. The men provide their own uniforms.

Willis Rodgers, Chief, Ottawa, Kan.: The firemen are paid $90 a month, Assistant Chief, $105 and the Chief, $125. Nothing is taken out either for relief or pension funds. All firemen buy their own uniforms.

W. H. Mitchell, Chief, St. Joseph, Mich.: At present firemen receive $112.50 a month with no deductions for pension. The men provide their own uniform but the city supplies rubber coats, boots and helmets.

B. L. Warlick, Chief, Jackson, Tenn.: The Chief receives $160; Captain, $135; Firemen, $115. Fifty cents a month is taken out for group insurance. The men provide their own uniforms.

C. L. Ingram, Chief, Montgomery, Ala.: Pipemen are paid $99; Engineers, $115; Lieutenants, $121.50; Captains, $126. One per cent of the salary is taken out for pension. Uniforms and bunker clothes are supplied by the city.

Charles O. Spear, Jr., Chief, South Portland, Me.: Firemen receive $33 a week but will receive a ten or twenty per cent cut. At present there is no pension or relief fund. There is a $35 a year allowance for uniforms.

L. B. Martin, Chief, Clearwater, Fla.: Firemen are paid $100 a month. We have no pension or relief fund. The city furnishes the uniforms.

A. J. Caffey, Chief, Danville, Ky.: At present firemen receive $90 a month although before the depression they were paid $125. There are two paid drivers and the rest volunteer firemen who are paid $1 for the first hour and fifty cents for each additional hour at a fire.

B. J. Reilly, Chief, Ithaca, N. Y.: First class firemen are paid $2,000 a year; second class, $1,900 and third class, $1,800. Contributions, according to age, are made to the state employees' retirement system. The men provide their own uniforms.

John Ely, Chief, Champaign, Ill.: Firemen are paid $150. The pay is cut fifteen per cent but in order to protect the pension, the men are paid in full and each pay day turn back fifteen per cent. With the two per cent insurance tax the department buys shirts, caps, quick hitch suits, helmets and rubber boots.

Charles E. Foster, Chief, Astoria, Ore.: Firemen are now paid $100 (cut from $125) and the Chief $150 (cut from $200). We have no pension fund. The men must buy their uniforms. The city only furnishes helmets and caps.

R. V. Hawcroft, Chief, Reno, Nev.: At present, firemen are paid $120 which represents a twenty per cent reduction. Nothing is taken out for pensions. The men buy their own uniforms and turnouts. The city does not furnish anything.

William F. Walker, Chief, Eureka, Cal.: Firemen are paid $140. Five per cent is taken out of the pay for the pension fund. They provide their own uniforms.

Ross Schmidt, Chief, Crookston, Minn.: The only paid men are the drivers who receive $90 a month, and the Fire Marshal who is also Chief and receives $112.50 a month as Fire Marshal and $5 for each fire as Chief. Nothing is taken out of the pay, as the fund is maintained by the two per cent insurance tax. The paid men buy their own uniforms but the city allows them coats and boots.

Francis X. Pendleton, Chief, Belfast, Me.: Firemen are paid $25 a year and $1 an hour for fighting fires. They buy their own uniforms.

T. W. Pinnell, First Assistant Chief, Bakersfield, Cal.: Our wage scale is Chief, $275; Deputy Chief, $195; First Assistant Chief, $190; Second Assistant Chief, $180; Master Mechanic, $175; Captains, $175; Engineers, $155; Auto Drivers, $150; Hoseman, first grade, after three years, $145; Hoseman, second grade, third year, $137; Hoseman, third grade, second year, $130; Hoseman, fourth grade, first year, $125. These are the salaries after an average cut of 14.7 per cent.

Regardless of rank $3 per month is taken for the pension fund. All ranks rate the same pension—$100 a month. No allowance is made for uniforms except helmets.

Governors Promise Action

As the result of the move made by Chief Allen, shortly after his inauguration as President of the International Association of Fire Chiefs, to interest state administrations in improving fire protection facilities in public institutions with Federal loans, many states have planned such improvements.

Chief Allen communicated with the Governors of many states, suggesting this means of making work and at the same time accomplishing useful results. Among those responding, many of whom promised definite action, were the following:

H. G. McCall, Private Secretary to Governor J. M. Futrell, Little Rock, Arkansas.
Wm. A. Smith, Private Secretary to Governor James Rolph, Jr., Sacramento, Cal.
C. Ben Ross, Governor, Boise, Idaho.
Sherman V. Coultas, Fire Marshal (transmitted to the I.A.F.C. office by Governor Henry Horner), Springfield, Illinois.
Paul V. McNutt, Governor, Indianapolis, Ind.
Edith M. Johnson, Secretary to Governor Clyde L. Herring, Des Moines, Iowa.
Ruby Laffoon, Governor, Frankfort, Ky.
Richard W. Leche, Secretary to Governor Oscar K. Allen, Baton Rouge, La.
Albert C. Ritchie, Governor, Annapolis, Md.
Robert F. Bradford, Asst. Secretary to Governor Joseph P. Ely, Boston, Mass.
O. K. Fjetland, Executive Secretary to Governor William A. Comstock, Lansing, Mich.
W. Aiken, Secretary to Governor F. H. Cooney, Helena, Mont.
H. C. Pearson, Secretary to Governor John Winant, Concord, N. H.
A. Harry Moore, Governor, Trenton, N. J.
James J. Mahoney, Asst. Secty. to Governor Herbert H. Lehman, Albany, N. Y.
William Langer, Governor, Bismarck, North Dakota.
Julius L. Meier, Governor, Salem, Ore.
George White, Governor, Columbus, Ohio.
Theodore Francis Green, Governor, Providence, R. I.
C. W. Robertson, Secretary to Governor Tom Berry, Pierre, South Dakota.
Ralph Perry, Secretary to Governor Hill McAlister, Nashville, Tenn.
George C. Sutherland, Secretary to Governor Henry H. Blood, Salt Lake City, Utah.
John Garland Pollard, Governor, Richmond, Va.
James Ward Rector, Executive Clerk, Madison, Wis.

In a number of instances, definite work along the line suggested by Chief Allen has been planned. In other cases, state institutions have communicated with the Headquarters Office of the International Association of Fire Chiefs asking for detailed information as to how they might secure money. It is expected that the fire protection facilities of such institutions will be improved materially by the use of Federal funds.

Ayer, Mass., is to build a new fire house from plans drawn by George Ernest Robinson, a Boston architect.

T. Julian Lewis has been appointed Chief of Provincetown, Mass., to succeed the late Chief James Barnett.

A. J. Keogh, for sixteen years associated with the executive officers of the New York Fire Department, will continue the practice of law at 67 Wall Street, New York City.

The eight-hour day for members of the New York Fire Department which was approved by the previous city administration, has been vetoed by Mayor LaGuardia. He said that the proposal could again be considered when the city's finances were in better condition.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Pressures with Multiple Layouts

To the Editor:

Will you kindly solve the following problem?

If we want a certain pressure at a nozzle we can find the correct engine pressure, and if we have a certain engine pressure we can find the nozzle pressure. These can be solved by the Underwriters' formulas.

This is all well and good for single lines off the pump. What I would like to know is this: How can I figure engine pressure and nozzle pressure when there are two or three lines off of the pump?

If a pump has one line of 2½-inch hose of 500 feet length with a one-inch nozzle, and 80 lbs. nozzle pressure is wanted, the engine pressure must be 167 lbs. to give 80 lbs. nozzle pressure. Then further suppose that we hook a 400-ft. piece of 2½-inch hose on this same pump with a 1⅛-inch nozzle, this line by itself on the pump would require 188 lbs. engine pressure to deliver 80 lbs. at the tip.

Then assume that we want to figure out the engine pressure to deliver as near as possible 80 lbs. at both of these tips. How is this done?

How does one figure out what nozzle pressures there are on his two or three lines attached to the same pump, when he knows his engine pressure?

In other words I would like to know how to figure engine pressures and nozzle pressures, when there are more than one line of hose attached to a pump, say two lines, then three lines. Would also like to know how to figure them when the lines are of different length and with different sizes of nozzles; and the same nozzles and same hose lengths. I would like to know how to figure these for nozzle tips from ⅝-inch to at least 1½-inch.

C. L. F.

Answer: Where two or more lines of hose are stretched from an engine and it is found by calculation that different engine pressures would be required to produce the desired nozzle pressures on the different nozzles, the only way we can get around such a situation is to throttle down the discharge gate on those lines which require less engine pressure.

For example, in the first case you cite, where one line would require an engine pressure of 167 pounds and the other an engine pressure of 188 pounds pressure, we would operate the engine so as to give 188 pounds engine pressure. This would take care of the second line. On the first line we would shut down the discharge gate at the pump partly so as to give the desired nozzles pressure. This would result in a pressure in the hose line right at the discharge gauge of 167 pounds.

For a given engine pressure, only one definite and predetermined pressure can be produced at each nozzle on the different lines attached to a pump, provided the discharge gates at the pump are wide open.

In solving for nozzle pressures where several lines are stretched from the engine, each line is solved by itself. For example, suppose we have 200 pounds at the engine supplying three lines of given length with given sized nozzles. Each line would be calculated separately, and we would get three different nozzle pressures, unless all hose layouts were identical.

In each layout, if we know the nozzle pressure at one of the nozzles we can solve back to find the engine pressure. This engine pressure will be the same for all three lines—provided the discharge gates at the pump are opened.

There is but one pressure within the pump chamber for all the lines; this pressure applies to all lines attached to the pump.

Types of Electric Wiring

To the Editor:

Will you kindly answer the following questions:

1. Do you approve of open wiring in dwelling houses, and if so, to how many family apartment houses do you allow open wiring?

2. Which do you consider the safest method of rewiring buildings, in conduit, B.X. or open wiring?

3. Why did the country at large change from open wiring to conduit? What is their reason for doing this?

4. At this institution we have a building which was built in 1885, of wooden structure, very old fashioned type; 425 patients are housed in the building. It has in the attics and basement, throughout, obsolete open wiring. If you recommend that this building be wired in conduit, explain fully why it should be done in conduit; I am interested from a fire standpoint. M. G.

Answer 1: The writer does not approve of open wiring in dwelling houses, nor is it used to any extent in larger cities.

Answer 2: Conduit is the safest and best method of wiring in a building, particularly where a large number of people are detained. Less electrical trouble is experienced with conduit than with B.X. or open wiring. The couplings on B.X. are not nearly as secure as on conduit and there is always the possibility of a sharp edge of B.X. remaining where it is put on the coupling and this sharp edge may "short" the wires. Furthermore there is also a danger of B.X. slipping out of the coupling, when the B.X. is put under tension. As far as open wiring is concerned in the institution you mention, this is not at all satisfactory, for there is a tendency to disturb the wires either by hanging objects on them, or when moving large articles in rooms where the open wiring is present.

Answer 3: The country-wide change from open wiring to conduits was due to the greater safety and security of the conduit. Furthermore it is much easier to change circuits in conduit than where open wiring (concealed) is employed, such as knob and tube installations.

Answer 4: By all means, the building you have in mind should be wired with conduit, for it provides a much more safe and secure installation. Furthermore, if any changes have to be made in the wiring later on it is a much simpler matter to do it in conduit than if either B.X. or open wiring is employed.

The fire record of installations where conduits are employed show conclusively the advantages of this type of installation.

Carbon Monoxide Gas Combustible

To the Editor:

The following question has been brought up for discussion among various members of our department, "Will pure carbon monoxide gas explode?" Will you kindly give your opinion on this question? Thank you!

F. E. M.

Answer: Pure carbon monoxide forms an explosive mixture with half its volume of oxygen. The gas burns readily in air, with a non-luminous flame. If the gas is in a confined space, and mixed with air in proper proportions to support combustion, it will burn rapidly and generate pressure sufficient to force open doors, blow out windows, etc.

From the above, it may be concluded that carbon monoxide

is not an explosive gas when burned under proper control. It is only when it is found in large quantities at a fire, and in enclosed spaces, such as rooms, that damage may be caused.

Entitled to Pension

To the Editor:

The question of eligibility of a fireman's widow for pension has arisen in our city and I thought you may have had a similar case submitted to you and would therefore be able to help me. Any information you may give me will be appreciated.

The case is ——, a fireman, was critically injured by the collapse of one of the fire stations during an earthquake. He died without regaining consciousness. His widow applied for the Widow's Pension and was granted same by the Pension Board, subject to the approval of the City Attorney. The City Attorney has ruled the widow not entitled to pension, as the earthquake was in his opinion "An act of God." Enclosed you will find copy of our Pension Law under which this decision was handed down. Any information of previous decisions of this nature would be appreciated. A. F. D.

Answer: The following information was received from Leo T. Parker, Attorney at Law:

"It is my opinion that this fireman's widow is entitled to a pension for the reason that he was killed while attending to his regular duties and it is immaterial whether the accident resulted from an act of God or otherwise. For instance, in one case (177 N. E. 43) a municipal employee was killed one day while off duty, but subject to a call. The Court held the dependents entitled to a pension. In another case (4 P. (2d) 929) a municipal employee was injured while climbing a flight of steps. His dependents were held entitled to a pension. In another case (164 N. E. 123) a tornado blew in a door which the employee was attempting to close. In this case also the Court held the employee entitled to compensation.

"Your law specifies that the dependents are entitled to compensation when an employee is injured during performance of his duty. If this fireman was in the fire house and attending to his duties it seems to me that the dependents would be entitled to a pension for any injury, since the law does not classify the kind of injuries which shall determine the right to a pension.

"Also, see the following cases: 12 P. (2d) 425; 4 P. (2d) 929; 265 P. 207; 181 N. E. 663; 243 N. W. 713."

Storing Hose

To the Editor:

Will you please give me your opinion as to the best method of drying hose. Also whether it is a good plan to allow a little water to stand in the hose when stored to keep it from cracking. H. L. W.

Answer: It is not good practice to permit water to remain within hose when it is stored, for there is always a possibility of pin holes being present in the lining, and the water would seep through and thus damage the hose jacket. In the case of absolutely new hose, however, there would be no harm, and possibly some benefit by allowing water to remain within the hose provided none of it in any manner reaches the jacket on the outside.

Pressures for High Fires

To the Editor:

Will you kindly answer the following questions through your column?

If one engine connects up to standpipe and it is not able to give enough pressure on upper floor, would you connect another engine up tandem or connect it up to siamese on standpipe?

If two engines pumping into siamese at bottom of standpipe were unable to give enough pressure on floors above, would it be the proper layout to have third engine lay line into second and third floors and connected to standpipe discharge opening and pump into same?

Could you cite any fire where the tandem hook-up was used, where two engines and a siamese could not be of use obtaining the same results? H. J. J.

Answer 1: If a pumper is hooked up to a standpipe of a building and is not able to give sufficient pressure to operate on one of the high floors, the only thing you can do is to connect a pumper in tandem to it. In the foregoing, it is assumed that the pumper is operating at its maximum capacity, that it is capable of giving, which your statement infers.

The sole purpose of hooking the second pumper is to boost the pressure, so that a satisfactory stream can be directed on the floor in question.

Answer 2: If two engines are pumping into the siamese at the bottom of the standpipe and are unable to give enough pressure on the floors above it would indicate that there is too much back pressure. In other words, they are expected to force water to heights greater than that of which they are capable. In this case it would be of no advantage to attach another engine to the standpipe system by stretching to an inside connection on one of the upper floors. Again, as in the first problem, the solution is to hook up two of the engines in tandem to give the necessary additional pressure.

Answer 3: Assume the maximum pressure that your pumping engines are capable of giving is 350 pounds. If 50 pounds is needed to overcome friction in the standpipe, lead lines of hose and giving nozzle pressure, then we have 300 pounds left for overcoming back pressure. If the building is over 700 feet in height, your pumping engines will not be capable of creating satisfactory nozzle pressure. If the building should be considerably above 700 feet in height, then two engines hooked in tandem would be required. In this instance it would be of no value to hook two engines in parallel to the siamese connection at the street, for it is pressure you require and not capacity.

It is assumed, of course, that hose of sufficient strength is provided to handle the high pressure produced by engines in tandem. The very fact that the second engine is delivering a pressure of 350 pounds would indicate you would have to have hose of sufficient strength to handle this pressure.

The problem of furnishing streams in high buildings in New York is solved by providing large pumping engines capable of giving very high pressures. This obviates the necessity of using engines in tandem. In this case, too, extra strong hose is employed to handle the high pressures created.

Ed. Wynn Cartoons Available

The Texas Company of New York, are having prepared a set of cartoons of Ed. Wynn, the well-known "Chief" of Texaco Fire Chief Gasolene, and Graham McNamee, the N. B. C. announcer, for framing. The pictures will be autographed by "Chief" Wynn. Members of fire departments may cesure copies of them, as they are released, free c charge by writing The Texa Company, Room 1801, 135 E. 42nd street, New York, N. Y. The first cartoon to be released is reprodued on page 39 o fthis issue.

Fire Chiefs Re-elect Charlesworth

Frank Charlesworth, Chief of Providence, R. I., Fire Department, was elected President of the Fire Chiefs' Club of Rhode Island for the eighth term at the annual meeting held in Providence on January 11. Other officers are First Vice-President, Chief Augustin J. Cote, Woonsocket; Second Vice-President, Chief Elmer R. Capwell, Anthony; Secretary, Ex-chief A. Robert Black, North Providence; Treasurer, Ex-chief Arthur J. Billinge, Norwood.

The Secretary's report showed a gain of fifteen in membership making a total of 248 members.

The following bills will be presented to the General Assembly now in session: To provide for compensation for widows and orphans of firemen killed while on duty; for control of installation of oil burners, storage tank and fuel oil; for elimination of charging users of water for sprinkler systems.

A spaghetti supper was served previous to the meeting. Motion pictures were displayed by William Shillan.

NEW ENGLAND FIRE CHIEFS TO MEET AT BURLINGTON, VT., JUNE 26-29

Chief Daniel B. Tierney, Arlington, Is Chairman of Exhibit Committee—Convention to Consider Hydrant Markings and Use of Cisterns

By Harry Belknap

DIRECTORS of the New England Association of Fire Chiefs, at a meeting held in Arlington, Mass., on January 31, voted to hold the annual convention at Burlington, Vt., June 26-29.

It was voted to open the convention in the Memorial Auditorium in Burlington on Tuesday morning, June 26, with the customary addresses of welcome, response, and the annual memorial service. In the afternoon there will be a session devoted to forest fire wardens with a program to be arranged by Maxwell C. Hutchings, State Fire Warden of Massachusetts.

Chief Daniel B. Tierney
President and Chairman Exhibit Committee.

An interesting program is being arranged for the remaining three days. The subject of the use of radio as an auxiliary to fire alarm systems will be discussed and there will be an exhibition of drill school evolutions under supervision of drill masters who are instructors in the Massachusetts Firemen's Training Classes of the State Department of Vocational Education.

Chief Daniel B. Tierney, Arlington, President of the New England Association of Fire Chiefs, was chosen to represent the organization as New England director in the International Association of Fire Chiefs.

Secretary John W. O'Hearn reported the deaths of the following members of the association since the last directors' meeting: Ira G. Hoagland, New York, Secretary of the Automatic Sprinkler Association of America; A. D. Wheeler, of the Gamewell Company, Newton, Mass.; Ex-Chief Howard C. Kimball, Salem, Mass.; Ex-Chief John E. Sullivan, Plymouth, Mass.; and Chief James S. Koen, Salem, Mass.

There were discussions of distinctive markings for fire hydrants of various capacity and of establishment of water holes for aid in fighting forest fires and in rural district fires where there are no hydrants. Both of these subjects will be taken up at the convention.

The following exhibit committee was appointed: Chief Daniel B. Tierney, of Arlington, Mass., Chairman; Chief Thomas P. Keery, of St. Albans, Vt. and Chief Alfred H. Koltonski, of Rutland, Vt.

Following the meeting a luncheon was held in Wymans' Restaurant at which the following were present: Chief Daniel B. Tierney, Arlington, President; Chief John W. O'Hearn, Watertown, Secretary-Treasurer; Chief William C. Mahoney, Peabody, Director; Ex-Chief James M. Casey, Cambridge, Director; Chief Selden R. Allen, Brookline, President of the International Association of Fire Chiefs; Chief David A. DeCourcey, Winchester, Second Vice-President, N. E. Ass'n.; Maxwell C. Hutchings, Massachusetts State Fire Warden; Alfred L. Miner, Chairman of the Massachusetts State Fire Prevention Committee; Charles W. Mowry, of the Associated Factory Mutual Fire Insurance Companies; John Campbell, of the Edison Electric Illuminating Co.; Charles Madden, aide to Chief Allen; and Harry Belknap, press representative.

A resolution was adopted opposing the laying of any new water mains of less than eight inches diameter as several of the Chiefs spoke of the unsatisfactory results obtained when pumping engines are forced to work from hydrants fed by six-inch and four-inch mains.

Salem, Mass., has placed a new Maxim pumper in service to replace the old pumper of Company No. 6.

Massachusetts Chiefs Study Promotions

Discussion of proposed changes in civil service examinations for promotion in Fire Departments and of the right of way of apparatus in streets controlled by traffic lights occupied the attention of the members of the Fire Chiefs' Club of Massachusetts at the meeting held in the Hotel Statler in Boston, January 17.

President Fred Clark, Chief of the Attleboro Fire Department, directed the proceedings. Among those who took part in discussion were Chief Edward F. Dahill, New Bedford; Chief Charles L. McCarthy, Worcester; Chief Clarence R. Randlett, Newton; Ex-Chief William H. Hawkins, Haverhill; Chief William H. Hill, Belmont; Chief William F. Welch, Lynn; Chief John W. O'Hearn, Watertown; Chief Frank E. Tracy, Woburn; Chief Charles H. French, Manchester, N. H.; Ex-Chief Reuben D. Weekes, Providence, R. I.; Chief Homer Marchant, Gloucester; Chief John Cressy, Beverly; P. C. Charnock, of the New England Insurance Exchange; and ohn Campbell, of the Edison Electric Illuminating Company. Chief Frank F. Dickinson, Brockton, was nominated and elected a director of the club to fill a vacancy. Chief Manuel Miguel, Manchester, was elected to take Chief Dickinson's place as sergeant-at-arms.

The following committee was appointed to attend a hearing of the Massachusetts legislature on civil service rules: Chief William J. Sands, Quincy; Chief David A. DeCourcy, Winchester; and Chief Edward F. Dahill, New Bedford.

Mayor Foley, Attleboro, who was a guest at the luncheon which preceded the meeting, invited the club to hold the February meeting in Attleboro and the invitation was unimously accepted. HARRY BELKNAP.

Ohio Arson Convictions Makes Record

Frank G. Henry, State Fire Marshal, secured 79 convictions for arson and similar crimes in Ohio during 1933, according to the annual report which has been filed. This total exceeds by three the number secured in 1932 and, therefore, establishes a record for the past thirteen years.

During 1933, the marshal and his assistants investigated 821 fires, and 172 persons were prosecuted as a result of these investigations. On January 1, 1934, there were 28 indictments pending and 15 cases were ready to be presented to the grand juries.

Losses in New York City Lowered

Fire losses in New York City were reduced forty-six per cent in 1933 over the figures for the year previous, according to a statement made by Commisisoner John J. McElligott. Not since 1918 have the fire losses been so low. The number of fires decreased from 31,223 to 26,298, and the fire loss per capita fell from $2.48 to $1.32. The total fire loss in 1933 was $9,723,535.

However, both the number of deaths by fire and the number of fire alarms increased. The death toll last year was 125 as against 117 in 1932. The number of false alarms for 1933 was 15,501, an increase of 1,066. Ninety-three per cent of all fires were confined to the point of origin.

School Children Contest Winners Awarded With Ride

During Fire Prevention Week, examinations on the subject were held in the public and parochial schools of Livingston, Mont. The first twenty winners in each school division were awarded with a free theatre ticket and the next twenty each received a ride on one of the city's fire apparatus. The illustration shows the group of public school children who enjoyed a ride.

WHAT'S BURNING

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of January, 1934. These figures, compiled from the telegraphic reports are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Month Ending January 31

	Loss in Thousands of Dollars
Staples, Minn.—Several business buildings	125
Bennington, Vt.—Hotel Bennington destroyed	50
Providence, R. I.—Whse. of Joseph Marcus & Co., destroyed	70
Ottawa, Ont.—Dwelling of John Gleeson destroyed	160
Brooklyn, N. Y.—Brevoort Apartments destroyed	700
Titusville, Pa.—Masonic Temple building destroyed	65
Mexico, Mo.—Apartment building destroyed	65
St. Raymond, Que.—St. Raymond College destroyed	80
Fort Edward, N. Y.—St. James Episcopal Church and rectory	50
Elwood, Ind.—Lesson Co. department store destroyed	400
Peekskill, N. Y.—Parkway Plaza apartment house	80
River Vale, N. J.—Shustin's Hotel on River Vale Road	60
Berlin Centr, Ohio—Business and residential property	80
Boston, Mass.—Centerfield bleachers of Fenway Park	200
Philadelphia, Pa.—Depot of Atlantic Refining Co., River Rd	80
Franklin, Wis.—Barn on Burwood farm destroyed	50
Mt. Carmel, Pa.—Eight dwellings destroyed	50
Lykens, Pa.—Post office and other business property	80
Hardin, Mont.—Plant of Hardin Auto Co., destroyed	50
Spartanburg, S. C.—Plant No. 2 of Drayton Mills damaged	50
Apollo, Pa.—Several business buildings destroyed	50
Tarentum, Pa.—Oppenheimer bldg. and adj. property	50
Chicago, Ill.—Warshawsky Auto Accessories Co. Plant destroyed	800
Aurora, Ill.—Woolworth store destroyed	200
Moberly, Mo.—Business property owned by J. Holman destroyed	100
Chicago, Ill.—Warehouse of Overland Candy Co., damaged	65
Lakeville, Conn.—Roberts block destroyed	80
Muscatine, Iowa.—Whse. of Hawkeye Pearl Button Co	50
Portland, Oreg.—Whse. of Hawley Pulp & Paper Co., damaged	200
Sydney, N. S.—Shop of Dominion Steel & Coal Corp., destroyed	50
Springfield, Ohio—Whse. of Chaney Mfg. Co., destroyed	50
Bay City, Tex.—Rice mill and two whses. of Geo. Herder	250
Chicago, Ill.—Casa Granada (night club) destroyed	175
Knoxville, Tenn.—Morrill Hall destroyed	250
Tomahawk, Wis.—Stern dept. store, adj. property	50
Hertford, N. C.—Plant of Eastern Cotton Oil Co., damaged	50
Denver, Colo.—Puritan Mine damaged	65
Springfield, Mass.—Apartment bldg. damaged	80
Milwaukee, Wis.—North Third Street business property	50
Watkins Glen, N. Y.—Several buildings destroyed	150
Three Rivers, Can.—St. Phillippe Convent damaged	75
Boston, Mass.—Business bldg. at 105-9 State St. damaged	65
Jamaica, N. Y.—Business property on 164th St	80
So. Buffalo, N. Y.—Gen. Elec. store, Woolworth store, adj. property	80
Roxbury, Mass.—Brody Drug Co., Inc., store damaged	50
Evansville, Ind.—Several business establishments destroyed	50
Fairfax, Okla.—Dwelling of Frank Shaw destroyed	50
Caruthersville, Mo.—Property of Southeast Missouri Cotton Compress Co.	100
Ironwood, Mich.—Ladin Bldg. damaged	50
Boston, Mass.—Whse. of Keystone Furniture Co., damaged	50
Hempstead, L. I., N. Y.—Main Street business property	125
Singac, N. J.—Colonial Inn, owned by Frank Donato	50
Chicago, Ill.—Bldg. at Oak and Illinois Sts. destroyed	50
Springfield, Ohio—Whses. of Cheney Mfg. Co.	50
Flint, Mich.—Several business establishments	100
Newport, Ark.—Whses. of Plunkett-Jarrel Grocery Co	125
Muscatine, Iowa—Grand Hotel and adj. property	50
Chicago, Ill.—Business property on Randolph St	50
Anderson, Ind.—Citizens Bank bldg., other business property	400
Fall River, Mass.—Plant of Merchants Mfg. Co., adj. bldgs	80
Lancaster, Pa.—Umbrella handle factory damaged	50
St. Louis, Mo.—Plant of Brooks Paper Co., damaged	80
Bainbridge, Pa.—Conoy Township high school destroyed	50
Saskatoon, Sask.—Property occupied by Lehrer's dept. store	80
New Castle, Del.—Five planes at Bellanca Aircraft Corp. plant	200
Brooklyn, N. Y.—Residential property on E. 38th St	80
Brooklyn, N. Y.—Portion of Golden City Am. park, adj. property	60
Tucson, Ariz.—Congress Hotel damaged	70
Ann Arbor, Mich.—Several business establishments	60
Coldwater, Ohio—Six business buildings destroyed	50
Clinton, Mass.—Clinton Baptist Church destroyed	200
Tucson, Ariz.—Congress Hotel damaged	70
Windsor, Ont.—Apartment block destroyed	50
Wilcoe, W. Va.—Y. M. C. A. bldg. of Norfolk R. R. and adj. bldg.	65
St. Louis, Mo.—McPherson Garage damaged	50
Hamilton, Ont.—Business property damaged	65
Quebec, Can.—Manoir Montmorency Hotel destroyed	150
Los Gatos, Cal.—Winery of Sacred Heart Jesuit Order	80

William H. Knight, retired Captain of the Norfolk, Va., Fire Department, died, following a brief illness at a local hospital. He was eighty-four years old and had served the department for nearly fifty years. He retired ten years ago. One daughter, three sons and grandchildren survive.

The City Council of Oakland, Cal., approved an ordinance providing for a two-platoon system. It replaces a similar ordinance which was ruled to be ineffective by the Superior Court although it was honored since 1919. The old measure gave the firemen one day off in five while the new one provides for one day off in four.

CORRESPONDENCE

Permanent Pools for Rural Fire Protection

To the Editor:

Rural departments are too often called to fires where, although there may be a small stream of water nearby, a great amount of time is lost in heaving in enough stone and sod to back up water for suction purposes. To overcome this handicap, I have recommended that in localities where there are enough houses or other buildings to warrant the outlay, and brooks or streams within a reasonable distance, permanent pools be built. A small dam will do the trick.

Of course, these water-holes should be made where roads cross streams, so that a couple of lengths of suction hose will reach, or, if back from a roadway, suitable approaches should be provided or standpipes placed at the roadside. These water-holes also eliminate the connection factor where other departments are called on for aid.

CWA money, I believe, is available for this purpose. Property owners will gladly give their approval and stone and other material can be had cheaply at this time.

I am working on this project in my vicinity, having recommended it to the Fire Commissioners a year ago, and I think other Chiefs would do well to look into the matter, also. I would suggest that Chiefs hearing of large properties changing ownership see the new owners and have provisions made for water-holes, in the re-grading and landscaping especially where there are many buildings on the premises.

The Fire Underwriters, architects and landscape engineers can help in this work, also by suggesting this additional protection to owners.

Very truly yours,

PERCY G. SNELLING,
Chief, Carmel, N. Y. Fire Department.

The Question of Four-Wheel Brakes

To the Editor:

We have a 750-gallon pumper and a city service ladder truck in our department, both of which were purchased a number of years ago. When they were purchased, they were equipped with solid tires, but they were replaced with pneumatic tires. They have been carefully serviced at all times and are in very good condition. But the apparatus still has the old two-wheel brakes.

I read an article in a recent issue of your paper in which the writer states that it was not advisable to change over to four-wheel brakes on old apparatus, presumably due to the cost.

In our case it certainly would not be possible to replace the apparatus with new units solely because of the brakes. There must be a large percentage of heavy apparatus throughout the country that is equipped in the same manner.

Upon the minds of our drivers is impressed the fact that the apparatus must be driven with reasonable care.

Only a few years ago, some of the automobile manufacturers were campaigning against four-wheel brakes, but they were soon adopted by everyone. Now we are left in a bad way when travelling through heavy traffic. An interesting situation has developed.

Yours truly,

ARTHUR E. SOPER
Chief, Mansfield, Mass.

McLaughlin Boston Fire Commissioner

Mayor Frederick W. Mansfield, Boston, Mass., has accepted the resignation of Fire Commissioner Eugene M. McSweeney and has reappointed Edward F. McLaughlin as Fire Commissioner. Last fall Mr. McLaughlin resigned his post and in the political campaign gave his support to Mr. Mansfield. Mayor Curley then appointed Mr. McSweeney who served until the new mayor took office when together with other department heads, McSweeney presented his resignation according to the municipal custom.

HARRY BELKNAP.

A new fire station was formally opened in Easton, Md. The completed structure costs $21,300

TESTS SHOW INSULATION NECESSARY FOR DOMESTIC HEATING EQUIPMENT

Studies Conducted by the U. S. Bureau of Standards Show the Minimum Space to be Allowed Between Stove and Wall and Floor Surfaces

AN annual fire loss for the country as a whole of about $20,000,000 is reported as caused by stoves, furnaces and boilers, and their pipes; or between nine and ten per cent of the loss from all known causes.

In tests recently completed at the Bureau, stoves, furnaces and their pipes were spaced at different distances from unprotected partitions, ceilings and floors, and hot fires maintained for periods ranging from one to seven hours. Protections of sheet metal, asbestos or brick were then applied and the least resistance determined that would be safe from the standpoint of hazardous temperatures that might cause ignition of the wood. It was found that stoves for house heating should be spaced not less than 24 inches from walls faced with wood, and the smoke pipes not less than 12 inches below wood joists or ceilings.

If bright sheet metal is applied to the walls, the spacing can be decreased to 12 inches. Similarly, plastered wood stud partitions while requiring a spacing of not less than 18 inches when unprotected, will be safe if only 9 inches from stoves where the area exposed is covered with bright metal. Bright metal, such as galvanized iron, was found considerably more effective than black iron, since it reflects more of the radiant heat.

Tests with smoke pipe thimbles indicated that a ventilated air space of not less than four inches all around the pipe, or of two inches if filled with insulation, is necessary where smoke pipes pass through combustible partitions. If stoves are without ash pits, or if ash pits are heated to near redness, an air space of five inches or more should be provided between the stove and a wood floor and the latter covered with incombustible insulation one-fourth inch thick under sheet metal. If the fire box rests directly on the floor, the latter should be of incombustible materials throughout for the area surrounded by the stove.

For this condition, temperatures high enough to cause ignition of the wood were transmitted through a four-inch brick base.

This explains the frequent occurrence of fires caused by ignition of wood forms left in place under brick or concrete arches supporting fireplaces.

Furnaces for hot water installations and their pipes were found to present little hazard to adjacent construction as fired with either coal, oil or gas.

The hazard from warm air heating ducts was found to be moderate, protections being required only where they enter floors or partitions relatively close to the furnace. In the case of the pipeless furnace, the down draft of cold air around the warm air duct protects the adjacent construction, the hazard with this equipment resulting mainly from placing combustible materials on the warm air register or locating the latter beneath or too close to partitions. Tests with a gas range having an oven without insulation indicated that six-inch separation between the side of the oven and a wood partition gives reasonable safe conditions.

(Excerpts of article in the Technical New Bulletin of the U. S. Bureau of Standards.)

Signals in a Supervisory Alarm System

In reprinting a paper read before the Dominion Association of Fire Chiefs by S. C. DeWitt in the last issue of FIRE ENGINEERING, an omission occurred which made the meaning of the sentences describing the supervisory alarm obscure. The sentences in question should have read:

"Just what is a supervisory system? In addition to sending in a fire alarm caused by water flowing from a sprinkler, the system must have signals to show when a line is broken or grounded. There must be a signal to show when a gate valve is closed, when the water or air pressure is low, and if there is a gravity tank, there must be a signal to show a low water level or a low water temperature."

Elyria, Ohio, has taken options on sites on which the city proposes to erect a new fire station. The fire house will cost about $50,000. The city expects to ask for a PWA grant.

Gas Masks With Speaking Diaphragm

A speaking diaphragm face piece has been developed by the Mine Safety Appliance Company, Pittsburgh, Pa., to make it possible for the wearers of gas masks to carry on audible conversations without difficulty.

According to the manufacturers, speech is transmitted naturally and without distortion. When required it permits clear speech over a telephone or speaking tubes. Fire Department officers, it is claimed, are able to quickly direct firemen without signalling, so that orders may be executed promptly.

Speaking Diaphragm and White Face Piece

The face piece of the new MSA mask is available either in black or white rubber. In the petroleum industry, the white rubber is more advantageous to the men engaged in mixing ethyl gasoline. The mask is provided with a deflector tube of aluminum for best efficiency and there is a regulation time-tested flutter valve. The speaking diaphragm is made of micarta which is impervious to heat or acid.

City Fire Prevention Bureaus Urged

More extensive fire prevention work by municipalities would have prevented three-fourths of the fire losses in New York State, according to findings of DeWayne E. Nolting, in a study of fire prevention practices in New York State municipalities, prepared under the joint auspices of the New York State Conference of Mayors, the School of Public Affairs of Syracuse University, and others.

The survey stated that city Fire Departments could aid materially in correcting the present situation by establishing a Bureau of Fire Prevention, adequately staffed and financed. Mr. Nolting said that, while sixteen cities in the state of over 40,000 population have Fire Prevention Bureaus, only three of ninety-eight municipalities between 40,000 and 5,000 population have definitely organized fire prevention work.

Newly Elected Chiefs

The following have been elected to head the Fire Departments in their respective municipalities.

Macungie, Pa.—Edwin Straus
Marysville, Pa.—Porter Fesler
Grass Valley, Cal.—Peter Daly
Casselton, N. D.—C. C. Hawley
Garner, Ia.—Cliff Nesbit
Marble Rock, Ia.—P. L. Baltimore
Capitol Heights, Md.—William T. Miles
Calexico, Cal.—Frank Santro
Victor, Ia.—Ed. Cahill
North Haledon, N. J.—Andre Hillaire
Wasco, Ore.—Dick Schenke
Fort Lee, N. J.—Robert Hammond
Glenrock, Wyo.—B. F. Spencer
Syracuse, Kan.—W. J. Shaffer
River Vale, N. J.—Ellis Collignon, Jr.
Perkasie, Pa.—William Helfrich

Quebec Chiefs To Meet at Three Rivers

The second annual convention of the Province of Quebec Police and Fire Chiefs' Association will be held at the Hotel Chateau de Blois, Three Rivers, Que., Canada, July 10-13. The armory has been secured for exhibits. The Board of Directors will allot free exhibit space to all who are members of the association. All exhibits are to be displayed at the owner's risk. Chief E. Paiement, Police Headquarters, Pointe-Claire, Que., is Chairman of the Exhibit Committee.

INSTRUCTION OF FIREMEN IN MODERN FIRE FIGHTING METHODS

In the Last Analysis, Reduction of the Country's Losses by Fire Must Be Predicated Upon Proper Training of Its Fire Fighters

By Ex-Chief James J. Mulcahey
Yonkers, N. Y.

METHODS for controlling and extinguishing fire have changed and will continue to change while new appliances and equipment are introduced. If we turn back the pages of time, we will recall that fire equipment comprised the old hand pump, the two wheeled hose cart and leather hose, with cisterns and wells for the water supply, compelling really, two forces for operation, one to shake down the pump while another would scurry around to find a cistern or well, after the first was exhausted. Subsequently, came the water plant and the steam fire engine, making a radical change in methods of operation.

Ex-Chief James J. Mulcahey

On the introduction of the water plant, in many places the stationary pump was a most necessary accessory to generate a pressure, while in others, due to elevation of their reservoirs a natural pressure was assured, making a great saving to the community, greater protection and simplified operation for the Fire Department. This change of method, with the introduction of cotton rubber lined hose, permitted the substitution of the hose cart for the hose carriage and the opportunity for firemen to show their sense for beauty by procuring apparatus that was ornamental as well as useful. They were richly painted, highly enameled and finished in gold stripe, sides and drum all nickel, or of rich plate glass, always ready for the march down the main street on the annual parade, men with head erect and chest thrown out and incidentally to create a friendly rivalry that made recruits for the company and gained for the fireman the respect, the pride and the admiration of his community.

Combination Hose and Chemical Next Change

The next change was from the hose cart, or tender, to the combination hose and chemical wagon, adapted to be drawn by horses, thus giving us a valuable auxiliary for controlling incipient fires, permitting quick action in attack, large salvage on goods with less effort in handling, the dispensing of water, and the consequent damage by excessive quantities of water from the larger hose lines. Finally came the triple-combination apparatus, motor drawn, making a complete equipment ready for operation with pump for conflagration, hose ready for immediate use and chemical for anything of small proportion, and the means of riding to the scene. Thus today, we are equipped with all the modern appliances for fire protection and extinguishment.

Recent Developments in Fire Fighting

While the changes cited are ancient, there are some still in service who witnessed every development, operated with them all, and with them learned their first lesson in fire fighting. Science has been busy in promoting means for fire extinguishment. Only recently we could see an oil fire get loose, the plant involving thousands of gallons of the fluid entirely beyond control. The only thing that could be done was to pump the oil to tanks remote from the one running wild; the best we could do was to use water lines on the outside of the burning tank, or on the surrounding property if we were fortunate, and did get close enough to the buildings to do so. Science has given us the antidote for that in "foam," which has completely revolutionized the method of control. We have also "carbon dioxide," or frozen ice, as we commonly call it, for extinguishment of fires in ships, electrical equipment, and certain types of inflammable liquids.

The Fire Department Salvage Corps

We recall only a few years ago the insurance interests announced they would discontinue organizing and maintaining salvage corps, as they believed it to be a Fire Department function that should be extended and carried on by that service. This was looked upon as something new, foreign, and as having no relation whatever with the Fire Department. Why this should be so, was beyond the comprehension of many of the best minds in practical service.

Government and fire officials on consideration agreed that cost for overhead and maintenance was paid by the citizens in their insurance premiums. They reasoned that if they should carry on this work in their Fire Departments, they would have the patronage of appointment from their own constituency and saving in salvage to the insured. While this is an added function to the Fire Department, it is safe to say that many complimentary letters will be received by the government, and perhaps an occasional bank note from the owner or occupant for the Fire Department, which will make temporary repair by cover or otherwise and in the recipients' hour of trouble make their home tenable.

Reduction of the Fire Loss

Science, engineering, and the various fire authorities have done splendid work for the fire service by the production of apparatus and appliances, by research and advice, but with all, the annual fire loss on this North American Continent continues to hover about the $500,000,000 mark, this being the yard stick on which insurance is rated and paid by our people. A reduction was the goal desired to be reached, hence further research was necessary.

This research was undertaken by the foremost fire organization in this country, who recommend education and training for the firemen, by experience and observation. It became evident that this is the means whereby municipalities can be provided with men competent to function dependably, and the individual be given continuous incentive and be steadily equipped with knowledge which would enable him to qualify for promotion.

Success of an Educational Campaign

With this view in mind an educational campaign was launched two years ago and a course of instruction was sponsored. As an evidence of its reception by members of the fire service, schools in twenty-eight states were established and short courses given in their colleges and universities. This was made possible by the co-operation of the Federal Board of Vocational Education.

Attendance at school is compulsory, because an individual without the ground work in the fundamentals of knowledge is hopelessly handicapped. A tradesman must serve apprenticeship before he can attain the rank or title of journeyman. Men aspiring to a profession must prepare themselves by long years of study and produce a certificate showing they can qualify their competency to engage in the actual practice. How then can we reason that the fireman is an exception to a rule that applies to every craft except the commonest labor?

We know that the fireman in a metropolitan city has much to learn before he can give full value to the department he is employed to serve. We have for the most part been depending upon practice to make him the trained fire fighter which modern conditions demand. That is costly and tedious, especially in the small city where he is not kept busy and where there is not much to do. It is true that a strong back is a prime requisite in a fireman, but it is not the only requirement necessary. That is an illusion that should be dispelled; the more effectively, the sooner will the public realize that ours is the job for a man who is not only physically superior, but also highly trained, mentally equipped and adequately educated. This realization on the part of the public will be advantageous.

Educational Program to Serve All

All metropolitan Fire Departments have their own schools for training firemen, and colleges for the training of their officers. It is an easy task for them—being long established and having the necessary equipment for the purpose, they have the means in finance to procure and replace all appliances required. Not so with the smaller cities, towns and villages, especially in this time of terrible depression, when the practice is to cut, reduce and curtail every activity, much

A.D.T. = INSTANT DETECTION and REPORTING

fire and water damage is usually serious or negligible according to the elapsed time between the moment the fire breaks out and the moment the fire department rolls out . . . . Fire fighters ask only speedy and accurate alarms.

Thousands of concerns in all parts of the country have cooperated with fire departments by installing A. D. T. Central Station Automatic (electric) Fire Detecting and Reporting Systems. Fire chiefs everywhere endorse these systems. They include Sprinkler Supervisory Service and the AERO Automatic Fire Alarm....modern safeguards against delayed alarms whose dependability is predetermined because of the undivided responsibility assumed by A. D. T. for their constant supervision and proper maintenance.

Write for descriptive literature

A.D.T. SYSTEM

A NATION-WIDE PROTECTION SERVICE

CONTROLLED COMPANIES OF

AMERICAN DISTRICT TELEGRAPH COMPANY

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FIRE DEPARTMENTS CHANGE TO BOOSTER TANK EQUIPMENT

Alert Fire Chiefs Know That Booster Tanks Bring New Effectiveness to Fire Trucks at Small Cost

The most important recent development in fire fighting methods is the replacement of chemical tanks with BOOSTER TANKS.

The illustration shows our Booster Tank with mounted Hose Baskets. ☞ We build them to suit your chassis space or truck hose body.

They can be mounted across the truck frame, in place of old chemical tanks or they can be set in the body of the truck. ☞ Give us the width and length of the space and we will make the tank to fit exactly; any height or capacity you want.

Made of heavy gauge COPPER BEARING RUSTLESS STEEL, carefully designed, fabricated and ELECTRICALLY WELDED, ☞ making practically a seamless construction, with no rivets to shake loose and leak. In the bottom a 1¼" tapped flange, for outlet, is also welded in. The filling trough has a strainer and may be filled by fire hose, buckets or through a garden hose. Trough is 4" deep. Hose Basket is steel with perforated ends and accommodates 150 to 200 feet of 1½" Booster or Leader Line Hose. Hose is folded in basket and runs out fast.

60-GALLON OUTFIT, size 17" x 22" x 48".
Tank without Hose Basket.....$60.00
☞ Tank with mounted Hose Basket.....$78.00
80-GALLON OUTFIT, size 20" x 24" x 48".
Tank without Hose Basket.....$72.00
☞ Tank with mounted Hose Basket.....$90.00
100-GALLON OUTFIT, size 22" x 26" x 48".
Tank without Hose Basket.....$ 84.00
☞ Tank with mounted Hose Basket.....$102.00
Tank dimensions are only suggested sizes; we will make up just the size you want to fit your space.

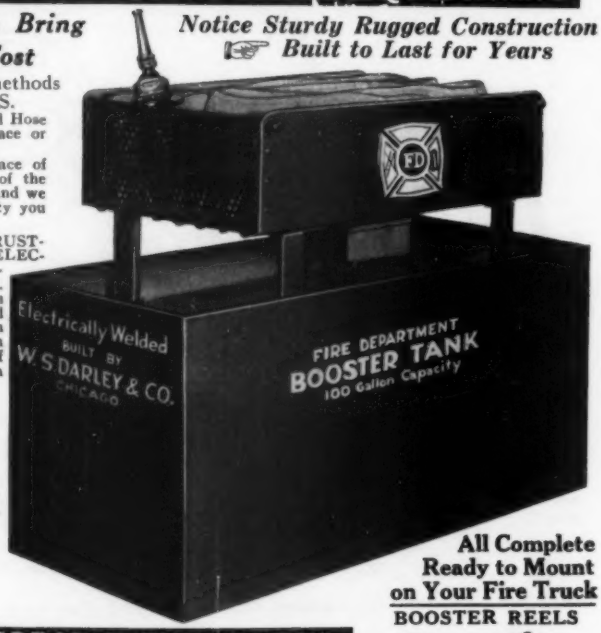
LARGER BOOSTER TANK OUTFITS

We build them promptly, to your order, with Baffle Plates to prevent splashing in tanks. It is almost a maxim that fire trucks cannot carry too much water and Booster Tanks of 200 and 300 gallons are not unusual. They are strongly recommended. Figure large tanks for Width, Height and Length, ☞ to the dimensions you want, on the basis of 231 cubic inches to the gallon.

200-GALLON OUTFIT, with ONE mounted Hose Basket, to carry 150 to 200 feet hose..... **$186.00**
300-GALLON OUTFIT, with TWO mounted Hose Baskets, to carry 300 to 400 feet hose..... **$219.00**

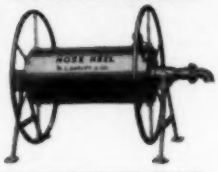
W. S. DARLEY & CO.
THE BEST IN FIRE DEPARTMENT EQUIPMENT
2810 Washington Boulevard - CHICAGO ☞

Notice Sturdy Rugged Construction ☞ *Built to Last for Years*



All Complete Ready to Mount on Your Fire Truck

BOOSTER REELS



SPECIAL EQUIPMENT

A powerful Searchlight, 11" dia., and two Red Fresnel Flashing Lights, for battery current, can be mounted on Booster Outfits.
Price, mounted, with brackets.....$39.75

REELS FOR RUBBER BOOSTER HOSE

Easily mounted over tanks. Holds 200 feet 1" rubber hose. Swivel joint. Strongly made.
No. C935 Hose Reels, each.....$36.50

OUR BOOSTER PUMPS, driven by power take-offs, are very efficient and cost little. WRITE FOR PRICES.

Minimize Water Damage · Reduce Insurance Rates

Shuredry
Waterproofed
Salvage Covers

City of Charleston
WEST VIRGINIA

Nov. 16, 1929

Fulton Bag & Cotton Mills.
Atlanta, Ga.

Gentlemen:-

The "SHUREDRY" salvage covers I purchased from you some time ago are doing just what you recommended them to do. They have paid for themselves several times in reducing the water damage.

I believe they are one of the most important things in a department with the largest saving, and the smallest purchase cost.

Very truly yours,

Write for Samples and Prices

Fulton Bag & Cotton Mills
St. Louis Atlanta Dallas
Minneapolis Brooklyn New Orleans Kansas City, Kan.

AFTER all, a good badge is a sensible investment. Not everyone can wear a fireman's emblem of service. You men who have devoted your lives to saving life and property should be proud of your badge.

You will be if you wear a BRAXMAR BADGE. Over fifty-five years of experience goes into every badge you buy.

Catalog on request.

C. G. BRAXMAR CO., 242 West 55th Street, New York

BRAXMAR BADGES
Standard for Over Fifty Years

of it perhaps actually necessary for the safe and proper conduct of the government. It is realized that in many communities it is impractical and impossible to procure the equipment to carry on such activities at any time, due to the small number of inhabitants and the financial inability of its people.

The Science of Fire Fighting

The purpose of the program is to serve all, the small city and town as well as the metropolitan or larger cities. With that view in mind, the material on the science of fire fighting is compounded in book form[1]. It is written and reviewed by the best minds in the fire service in this country, reviewed by fire engineers, underwriters and protective associations, passed by them as being all that could be desired. It is perhaps the first book on the subject ever written from actual experience of men in the active fire service, and is most valuable to officers or members of the Fire Department of any city. It contains the fundamentals on every phase of the subject and would serve well any fire officials who desire to establish a course of instruction in their service. This book will be invaluable to use in your department to settle disputs, of which on occasions there are many.

You have come from the job at night, with weather inclement. After a good wetting, you are cold and dirty, but, to know everything is in readiness for the next call, you look about quarters and contact with your crew, to hear them rehearsing every detail of this job and how it was done. Did you ever hear them say, "If I was to do that job over again I would do this"? Do you yourself, or do you know if any of your officers or members reviews his job, by mental picture? Do they go into every detail to discover any mistakes or omissions, and if so resolve to correct or do it better the next time? That is opportunity for instruction.

Dissemination of Instruction

Sometimes, when the fireman seeks knowledge and instruction, the answer is: "I know and I won't tell. If you wish to know, go find out—learn as I did." Information pertaining to the job should be disseminated through the ranks to be effective. Where possible it is best that it be given in classes by a competent teacher.

In relation to the teacher, or instructor, it must be kept in mind that every officer and fireman cannot teach. A man will make an excellent Fire Chief, but a poor instructor, and the same applies to a fireman. The qualified instructor must have personality, be genial, have the faculty of holding the attention of his pupils, know his matter, have the ability to gage the mentality of his class, and as some in that class may be as bright as he, he must always keep at least one jump ahead.

(Excerpts from a paper read before a meeting of the Fire Chiefs' Emergency Plan in Ossining, N. Y.)

[1]The Fire Chiefs' Handbook.

Gorey Succeeds Chief F. A. Leonard

Captain Edward F. Gorey, of the Taunton, Mass., Fire Department, has been appointed Chief to succeed Chief Fred A. Leonard, who recently retired on pension. The new Chief entered the Taunton Fire Department in 1920. Two years ago he was seriously injured when thrown from a ladder at a fire and was in the hospital for many months. He was born in 1894 and was at Camp Devens during the World War. He has had experience in drill school instruction and fire prevention inspection as well as fire fighting duty.

HARRY BELKNAP.

Allen Altvater, for over eight years Chief of the Sebring, Fla., Fire Department, was recently tendered a testimonial dinner. He was removed from office during the recent political upset and has since been appointed a supervisor in Highlands and Hardee Counties for the U. S. Public Health Service.

A fire chief who is having the past five years' issues of FIRE ENGINEERING bound, is missing copies of February 20, 1929 and March 6, 1929, to complete his file. Any subscriber sending in the desired copies to FIRE ENGINEERING, 24 W. 40th Street, New York, will have his subscriptions extended two months for each of the two issues wanted.

Vandals Damage Hose in Fire Station

Members of a fire company at New London, Conn., discovered that unknown vandals had deliberately poured sulphuric acid on fire hose and caused $1,000 damage. The act was discovered early as the hose in the apparatus was to be given its monthly airing to prevent mildew. When the rubberized cover on the apparatus was thrown back, there was a strong odor of acid, and the effects were noticed by the drivers.

Chief Shipman found that the cover had been pulled back and about half a gallon of the acid poured over 1,100 feet of hose as it was coiled in the body of the truck. The outer covering had been eaten away and the acid worked down through the entire load and dropped on the floor.

A patrolman was assigned to the investigation by the Police Department. In moving one of the acid tanks, he was struck in the eye by the acid and painfully, though not seriously, burned. Investigation showed no acid was missing from the storage carboys. The acid had not had time to eat through more than the outer ply so that the hose will be salvaged.

THOMAS F. MAGNER.

Chief Watson, Washington, D. C., Dead

Chief George F. Watson, of Washington, D. C., died on Sunday, February 4, following twenty-six years in the department of which he had been Chief since 1920. He was appointed Chief Clerk on July 1, 1906. On September 6, 1918, he became Fire Marshal. While at that post he cooperated with Chief Wagner in increasing the efficiency of the Fire Department. When Chief Wagner retired, he was appointed on August 30, 1920, to fill the vacancy. Chief Watson was highly regarded by fire preventionists and fire department officers.

A Correction

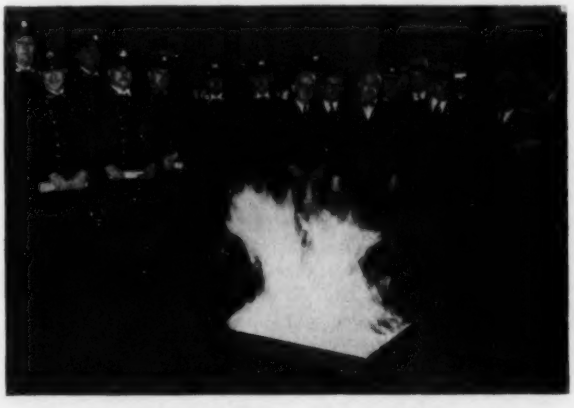
In the article on "The Origin and Development of the Modern Automatic Spinkler," by G. B. Muldauer, appearing in the January issue of FIRE ENGINEERING, Mr. Muldauer was referred to as General Agent, National Board of Fire Underwriters. His correct title is General Agent, Underwriters' Laboratories, Chicago, Ill.

H. J. Gruschus, for thirty-three years Chief of the Dickinson, N. D., volunteer department, has refused re-election.

Carroll, Ia., has purchased a 750-gallon pumper, delivery of which is expected in about three months.

Saugus, Mass., will erect a combined police and fire headquarters building to cost $65,000.

East Dundee, Ill., has purchased new fire apparatus. The department is volunteer, consisting of ten members, and during the past ten years it has raised funds during the summer towards the purchase of apparatus without appealing to the taxpayers. This is the second unit to be purchased in this manner.



Fire Officials Witness Test of Fire Alarm Signal

Fire officials of Jersey City, N. J., witnessed a test of the Aero Automatic Fire Alarm in a building of the Pennsylvania Railroad, where this system was recently installed. A pan of alcohol was ignited for the test. Among the Jersey City officials were E. A. Flaherty, Deputy Director of Public Safety; Chief Roger Boyle; Deputy Chief Patrick Cooney; Deputy Chief J. Tully; Deputy Chief F. Ertle; Battalion Chief H. Ennis; Battalion Chief A. Bell, and captains of fire alarm companies.

POSITIONS WANTED

These advertisements are inserted without charge as a service offered by FIRE ENGINEERING to everyone in the fire field. Use it.

Position Wanted

Do you wish to employ a young engineer who has had four years of practical engineering experience in the fire alarm and police telegraph field? One who has a thorough knowledge of underground and aerial construction, central office apparatus, project engineering, survey work and diaphone and whistle plants. Address Box 720, c/o FIRE ENGINEERING, 24 W. 40th St., New York City.
2-3

Position Wanted

Experienced Fire Extinguisher salesmen with ten years' following who has built up a large volume of business in Virginia, North Carolina and Tennessee, wishes to make change. Will consider small salary and traveling expenses or drawing account. Have own car. Can furnish Bond as well as references. Address: Box 705, c/o FIRE ENGINEERING, 24 W. 40th St., New York.
4-5

Salesman Wanted

Wanted experienced salesman to sell motor fire apparatus. Give full particulars as to yourself and experience. Address: Box 725, c/o FIRE ENGINEERING, 24 W. 40th St., New York City.
2

PROPOSED IMPROVEMENTS

Columbus, Ohio.—National Board of Fire Underwriters recommended that an automobile water tower be placed in Station 3, and that drill tower be erected. Edward P. Welch, Chief of Fire Dept.

Savannah, Ga.—John H. Monroe, Chief of Fire Dept., recommended in his annual report the erection of a fire station in the southeastern section of the city.

Zumbrota, Minn.—Funds have been raised for purchase of a 500-gal. pumper equipped with booster pump.

Dillon, Mont.—Funds are being raised for purchase of a fire truck for rural protection. O. T. Vandegrift, Chief of Fire Dept.

Stoneham, Mass.—Board of Engineers of Fire Dept. recommended installation of a complete new fire alarm system in their annual report.

CONVENTION DATES

Feb. 12—PROVINCE OF QUEBEC POLICE AND FIRE CHIEFS' ASSOCIATION. February Luncheon, Windsor Hotel, Montreal, Que., Can., at 12:30 p.m. Secretary-Treasurer, Robert O. Harrington, Chief, Fire Department, McColl-Frontenac Oil Co., Ltd., Windsor Hotel, Montreal.

Feb. 15—NEW JERSEY STATE FIRE CHIEFS' ASSOCIATION. Quarterly meeting, Mt. Holly, N. J. Secretary, Fred A. Trowbridge, 29 South Street, Morristown, N. J.

Feb. 18—NORTHERN INDIANA INDUSTRIAL AND VOLUNTEER FIREMEN'S ASSOCIATION. Special Meeting, Dunkirk, Ind. Secretary-Treasurer, G. W. Darr, Columbus City, Ind.

Feb. 21—FIRE CHIEFS' EMERGENCY PLAN. Monthly Meeting, Fire Headquarters, White Plains, N. Y. Secretary-Treasurer, Captain Eugene Riviere, Fire Headquarters, Larchmont, N. Y.

Feb. 28—FAIRFIELD COUNTY FIRE CHIEFS' EMERGENCY PLAN. Regular Meeting, Fire Headquarters, Trumbull, Conn. Secretary-Treasurer, John Moehring, Toms Road, Stamford, Conn.

April—CONNECTICUT FIRE CHIEFS' CLUB. Next meeting, Norwich, Conn., exact date to be announced later. Secretary-Treasurer, D. B. Mercer, 108 Harrison St., New Haven, Conn.

May 9—DEL-MAR-VA VOLUNTEER FIREMEN'S ASSOCIATION. 5th Annual Convention, Lewis, Del. Secretary, Fred Brown, Minquadale, Del.

May 22-25—IOWA FIRE SCHOOL. 10th Annual School, Iowa State College, Ames. In Charge—Prof. L. J. Murphy, Extension Engineer.

May 24—IOWA FIRE CHIEFS' ASSOCIATION. 5th Annual Meeting, Ames, Ia. Secretary-Treasurer, Chief L. R. Morris, Ames, Ia.

May 28-30—NEW MEXICO STATE FIREMEN'S ASSOCIATION. 12th Annual Convention and Fire College, Roswell, N. M. Secretary-Treasurer, Theodore A. Rosenwald, Albuquerque, N. M.

June 4-6—SOUTHWESTERN ASSOCIATION OF FIRE CHIEFS. 7th Annual Convention, San Antonio, Tex. Secretary-Treasurer, Chief J. E. Taplin, Blackwell, Okla.

June 12-13—MINNESOTA STATE FIRE DEPARTMENT ASSOCIATION. 62nd annual Convention, Hibbing, Minn. Secretary, Fred Pfaender, New Ulm, Minn.

June 16—EASTERN ASSOCIATION OF FIRE CHIEFS. 7th Annual Convention, Albany, N. Y. (Probable date, subject to change). Secretary, Chief F. E. Soule, Coatesville, Pa.

June 20-22—MARYLAND STATE FIREMEN'S ASSOCIATION. 42nd Annual Convention, Cambridge, Md. Secretary, George R. Lindsay, Hagerstown, Md.

June 26-29—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 12th Annual Convention, Memorial Auditorium, Burlington, Vt. Secretary-Treasurer, Chief John W. O'Hearn, Watertown, Mass.; Chairman, Exhibit Committee, Chief Daniel B. Tierney, Arlington, Mass.

July 10-13—PROVINCE OF QUEBEC POLICE AND FIRE CHIEFS' ASSOCIATION. 2nd Annual Convention, Hotel Chateau de Blois; Manufacturers' Exhibits at Armory, Three Rivers, Que. Secretary-Treasurer, Robert N. O. Harrington, Chief Fire Dept., McColl-Frontenac Oil Co., Ltd., P. O. Box Suite 8, Windsor Hotel, Montreal, Can.

July 17-18—MARITIME FIRE CHIEFS' ASSOCIATION. 20th Annual Convention, Truro, N. S., Can. Secretary-Treasurer, K. J. MacRae, Capt. Salvage Corp., St. John, N. B.

Aug.—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 62nd Annual Convention, Milwaukee, Wis. (Date to be decided later.) Secretary-Treasurer, Ex-Chief James J. Mulcahey, Yonkers, N. Y.; Chairman, Exhibit Committee, Chief Daniel B. Tierney, Arlington, Mass.

Sept. 17-20—CALIFORNIA STATE FIREMEN'S ASSOCIATION. 12th Annual Convention, Santa Cruz, Cal., Secretary-Treasurer, H. E. Strasser, 1171 Tenth Ave., San Diego, Cal.

Sept. 18-19—DELAWARE VOLUNTEER FIREMEN'S ASSOCIATION. 14th Annual Convention, Harrington, Del. Secretary, Sam H. Carson, Dover, Del.

Seagrave Merges Two Offices

New quarters have been opened by the Seagrave Corporation at 7-11 East 44th Street, New York City, with double the space formerly occupied by the New York City office. The Philadelphia and New York offices are merged at this location and the territory formerly served by the Philadelphia office will be taken care of from the new address.

Theodore Torrey Dead

Theodore Torrey, for many years identified with the Gamewell Company, as one of their eastern agents, died in Brooklyn, New York, recently at the age of 85 years.

He was widely known among Fire Departments in the New England and Atlantic Coast States, having traveled this territory for many years as Sales Representative of the Gamewell Company. He retired from active service about four years ago.

The Late Theo. Torrey

New Type Gas

A synthetic gas, named Prevention Gas, has been developed by Dr. H. E. Vogel, President of the International Fire Prevention Company, Newark, N. J., for preventing fires and explosions. It has inert properties, excludes oxygen, has neither color or odor, and will not combine with the objects to be protected. Equipment has been designed to make automatic fire protection installations. The developers claim that this gas will eliminate the fire and explosion hazards of such highly explosive materials as nitroglycerine, gasoline or combustible dusts.

Prevention gas has the following properties: Density, .0015 to .0022 grams at 20°C/20° C.; inertia, 99.75; solubility, none in common liquids; acidity, none; toxicity, none in light gas, it develops with increasing density and pressure of gas; critical temperature, about —180° C.; critical pressure, about 1,300 atmospheres; average coefficient of expansion, .00357; velocity of diffusion, very low; heat conductivity, very low; electrical conductivity, none; flammable matter, none; explosive matter, none.

Vose Appointed Cambridge Chief

Cutler L. Vose, Deputy Chief of the Fire Department in Cambridge, Mass., has been appointed Chief to succeed Chief James M. Casey, who recently retired on pension.

He was appointed to the Cambridge Fire Department August 13, 1895; became a Lieutenant in 1898; Captain in 1901. He was promoted to Deputy Chief in 1917 and has been Acting Chief since the retirement of Chief Casey.

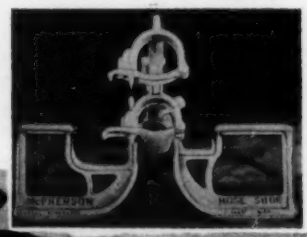
Chief Vose is sixty-five years old. He is married and has a son and daughter. The new Chief was born in Houlton, Me., but has lived in Cambridge for over fifty years. He attended the Rindge Technical School in Cambridge and after being appointed a fireman was assigned to drive the first aerial hook and ladder truck in Cambridge.

HARRY BELKNAP.

Mc PHERSON FIRE HOSE SHOE

Takes the Place of Expensive Turret Nozzles!

Playing big streams is child's play wherever this Hose Shoe is used. Instantly attached or detached while hose is under pressure. Stands absolutely alone—even on ice or hard pavements. **See one right away!**



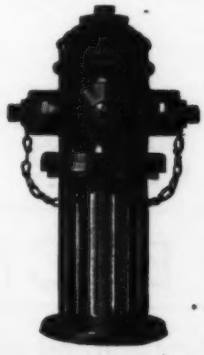
THIS successful new device absolutely takes the back-breaking work out of handling lines under pressure. The big point is—it converts *back* pressure into *down* pressure and the result is the nozzle will stand by itself—literally on its own feet—without any backlash and this regardless of pressure.

Frankly, it will step up the efficiency of any department that has the good sense to get them and use them. They are a *tried* and *proven* device—not just another gadget but a real contribution to the science of fire fighting.

This is just a suggestion brief—why not be the first one in your locality to get the details on the McPherson Fire Hose Shoe? We'll be glad to mail them to you on request—no obligation, of course.

GENERAL APPARATUS CORP.
1928 EAST SEVENTH STREET, LOS ANGELES, CALIF.

Here's why FIRE CHIEFS recommend



CRISPIN FIRE HYDRANTS

FIRE departments should demand hydrants especially designed for fire service. The CRISPIN hydrant was designed to help you fight fires more efficiently, Chief. Before you replace old hydrants or install new ones, we suggest you let us send you our folder which completely describes CRISPIN hydrants and just why you should recommend them for your city or town.

MULTIPLEX MFG. CO.
BERWICK, PA.
Offices: 405 Lexington Ave., N. Y. C. *Plant:* Berwick, Pa.

THE NEW FEDERAL C-5 COASTER SIREN

- **30 DAYS FREE TRIAL**
  The rear of the new Federal C-5 Coaster Siren halts traffic and clears the way so that fire or any emergency apparatus can make a clear, safe, and efficient trip. Modern stream line design, equipped with grease sealed ball bearing motor.
- **USES LESS CURRENT**
  It is nearly three times as loud as any ordinary siren and it operates on less current because it coasts for more than two minutes after the current is shut off. More economical on battery than the small conventional type siren. Include the new Federal C-5 Coaster Siren in your specifications for new apparatus. Write today for our new bulletin describing our complete new line of sirens and air whistles.
- **PRICE** **$67.50**

Let us send you the new Federal C-5 Coaster Siren for thirty days free trial.

Federal Electric Company
8702 SOUTH STATE STREET
CHICAGO, ILLINOIS

BARTON Fire Pumps

ADEQUATE protection at low cost. Used with any commercial chassis and without any costly alterations. Centrifugal type front mounted for pumping clean or dirty water. Four sizes — all automatically primed. Two largest pumps have passed Underwriters' 12-hour Tests. Write for FREE Circular.

AMERICAN STEAM PUMP COMPANY
Battle Creek, Michigan

COVER'S NOD and SHAKE GAS MASK

Carry It in Pocket. Slip on in a Jiffy. Positive Protection to Eyes Against Smoke. Safe in Fumes.

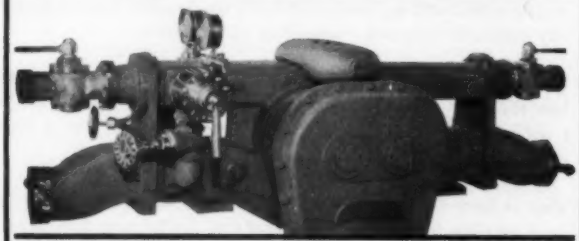
Price $48 per Dozen

Upon receipt of $4.00 one will be forwarded as a sample, postpaid.

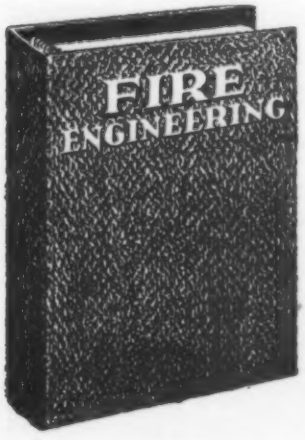
H. S. COVER
Station A
SOUTH BEND, IND.

JOHN H. CLAY, INC.
1320 Ridge Ave., Philadelphia, Pa.
Established 1864

Clay Automatic Door Opening Devices for Fire Station Doors Opening either In or Out. Save valuable minutes in getting to fires. Send for Bulletin.



NORTHERN PUMP COMPANY
ESTABLISHED 1907
MINNEAPOLIS, MINN.



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SALARIES, INSURANCE AND UNIFORMS PROVIDED FOR VOLUNTEER FIREMEN

Several Departments Do Not Provide Uniforms for the Firemen But Pay Drivers and Officers, and Have Insurance Benefits

VOLUNTEER departments, in a large number of communities, have a few members who devote more than the customary hours to the service. They are designated as paid drivers, part-paid drivers, paid chief, etc. Since these men have a definite work schedule to follow, to a great extent, they may be classed as paid men. It is therefore, interesting to note what provisions some volunteer departments have made for these men and what is provided in the way of uniforms and equipment.

The department at Weirton, W. Va. (C. O'Hara, Chief) has two paid drivers who also act as desk men while on duty. The police and fire stations are housed in the same building. The department has a group insurance policy which includes the drivers and anyone substituting for them. The drivers are allowed $5 a month toward the purchase of uniforms. Other members of the department must provide their own. Funds are secured through solicitation or through revenue raised by entertainments.

Colfax, Wash., has a volunteer department of which L. L. Burgunder is Chief. The Chief is paid $22.50 a month; Assistant Chief, $13.50; the Captain who is the driver and is on duty from 7:30 a. m. to 6:30 p. m., and seven days a week, $90; two night drivers, $27.50 each. The total monthly payroll is $181. The night drivers work two nights from 6:30 p. m. to 7:30 a. m. and then are off two nights. The balance of the department is paid on call, $1 for false alarm, $2 for fire extinguished by chemical lines and $3 for for a water fire.

No pay is taken out for pension or relief funds, but all donations made by citizens for services rendered at fires, are placed in the pension fund. No allowance is made for uniforms and none are worn. The department furnishes each man with a turn out suit and boots. These are paid for out of the department fund which is supported by at least one dance a year.

The individual companies of Mahoney City, Pa., pay the apparatus drivers $50, $75 and some $100 a year. The companies all provide their own uniforms.

Cortland, N. Y., has a volunteer department (Lewis W. Lang, Chief) with six paid men. The Captain is Superintendent of Station and receives $2,000 a year. The Lieutenant is Superintendent of Fire Alarm System, and is paid $2,000 a year. The other four men receive $1,768. These six men contribute ten per cent of their pay to the city as an emergency tax reduction. They also contribute to a pension. They do not wear uniforms nor is there any provision for the men to buy them.

The drivers are only paid men in the Hanover, Pa., Fire Department of which H. W. Reed is Chief. The two head drivers receive $80 a month and the other two are paid $72 a month. No money is taken out for pension or relief. The men secure their own uniforms.

There are only two paid men in the department of Crowsley, La., of which J. W. Miles is Chief. The pay of these men was cut to $55 a month. The drivers are off twenty-four hours per week, two hours for dinner and one hour each for breakfast and supper. They also receive some time off to attend to their business affairs. There is no relief fund and no expenses are paid unless the firemen get hurt while on duty. Firemen purchase their own uniforms and they pay for them out of the amount received. The city makes out a budget each year and pays to the Crowley Firemen's Association the amount budgeted for the salary of the paid men each month. The Crowley Firemen's Association is a chartered organization and runs its own affairs.

Chief Wilfred M. Fyckes of Massena, N. Y., writes that no salaries are paid in his department. The village carries insurance which protects the men while on duty. The department furnishes uniforms for each member.

W. W. Hunt is Chief of Northampton, Pa. No salaries are paid to any of the men.

At Monroe, Wis. (J. Blumer, Chief), the Chief is paid $100 a year, Assistant Chief $50 a year and the members $1 a call plus fifty cents per hour. Rubber boots, coats, etc., are furnished by the city. Compensation insurance is carried by the city. Personal accident insurance is carried by the Fire Department and the premium is paid from the Relief and Pension Fund.

Firemen of Wareham, Mass. (Michael E. Riley, Chief), are paid $15 a year and $1 the first hour fighting fires and fifty cents for each additional hour. The district pays for the insurance policy to cover the men and also pays for rubber coats, boots and rubber hats.

Chiefs' Plan Discusses Zoning for Fire Aid

A very interesting report of the Ways and Means Committee, headed by Ex-Battalion Chief Roy Wooley, on the present and proposed plans in connection with zoning of Westchester County for aid in case of conflagrations or large fires was a feature of the regular meeting of the Fire Chiefs' Emergency Plan, held on the evening of January 17 at Fire Headquarters, Mount Vernon, N. Y. The members were welcomed by Fire Commissioner William Curtin, in the name of Mayor Bateman, who was unable to be present, and by John Lynn, Controller of Mount Vernon.

Ex-Chief Wooley said that the allocation of zones throughout the county should be arranged according to the restrictions and limitations of the various towns composing them, taking into consideration water supply, apparatus, equipment, personnel, etc. The officers of the calling department should be able to place the various assisting companies according to the requirements and facilities of the town as to water supply, and the capacities of the assisting apparatus, so as not to overtax the water supply of the calling town. The various zones should be plotted as soon as possible. Ten days before the next meeting, copies of the report would be placed in members' hands, so that it could be discussed.

There was much discussion on the hazards of the range oil burner, especially as to the glass bottle container for oil and the capacity of cellar storage tanks. Deputy Chief Williams, of Lynn, Mass., told of the procedure in Massachusetts in connection with the code of that state. The matter was referred to the committee having the formation of an oil burner code for Westchester County in hand.

The finances of the Plan were reported in good shape by Secretary-Treasurer Riviere.

Chief Victor Veit, Stamford, Conn., President of the Fairfield County, Conn., Fire Chiefs' Emergency Plan, reported that, in spite of heavy weather, a large attendance was present at the last meeting in Ridgefield, and four new members had been added. He invited the members to attend the next meeting at Nichols, Conn.

Henry K. Nolte, President of the Westchester County Volunteer Firemen's Association, extended the greeting of his association to the Plan.

On invitation of Chief H. Abbot Griffen, the Plan decided to hold its next meeting at Fire Headquarters, White Plains, N. Y., on the evening of Wednesday, February 21.

Refreshments were served after the meeting by courtesy of the Mount Vernon Fire Department.

New York Firemen to Issue Summonses

Commissioner John J. McElligott, of the New York Fire Department, announced that firemen will issue summonses to motorists who fail to give fire apparatus the right of way when they hear the sirens. Since more than ninety per cent of accidents involving fire apparatus are caused by the failure of motorists to grant the right of way, Commissioner McElligott believes that this is the only way to correct the evil.

Chapter 486 of the Laws of 1933, effective April 26, 1933, amended Section 748 of the Greater New York City charter in relation to the right-of-way of the Fire Department as well as the Fire Patrol. Section 748 gives officers and men of the department, as well as of the patrol, with their apparatus when on duty, the right-of-way at and in proceeding to a fire, excepting the U. S. Mail. The new portion of Section 748 reads:

"In the performance of their duties, all officers and members of the uniform force shall have the power of performing the duties of peace officers, but their power to make arrests and to service processes in criminal action shall be restricted to cases arising under laws and ordinances relating to fires and the extinguishment thereof and to fire perils."

Up to the present time, the New York Fire Department has not taken advantage of the amended law.

The Civilian Conservation Corps has awarded contracts for 12,162 extinguishers and purchase of an additional 4,123 extinguishers has been authorized. The total cost will be $121,502.

Fairfield, Conn., Chiefs' Plan Meets

More than 125 Chiefs and other fire department officials from the towns and cities in Southern Connecticut were guests of the Nichols Volunteer Fire department at Nichols, Conn., on January 24, at the monthly meeting of the Fairfield County Fire Chiefs' Emergency Plan. Chief Victor H. Veit, of the Stamford Fire Department, presided.

The body voted to endorse a uniform code calling for the installation of oil burners in homes, factories and establishments throughout the county. A committee comprising Chief Thomas F. Burns, of Bridgeport, Assistant Chief Bernard Scully, of Westport, and Chief Frank Gisborne, of Old Greenwich, was appointed to investigate possibilities of wholesale installation of burners and other angles of the plan and ordered to report back at the next meeting to be held in Trumbull, Conn., on February 28, by invitation of Chief Carl Peterson.

Chiefs' Plan Members at Connecticut Meeting

L. to R., Seated—Ex-Chief James N. Sullivan, President, Fire Chiefs' Emergency Plan, Westchester County, N. Y.; Chief Victor Veit, President, Fairfield County Fire Chiefs' Emergency Plan and Charles D. Bradley, Nichols, Conn. Standing, rear row—Captain Eugene Riviere, Secretary-Treasurer, Plan, Westchester County; Chief Carl R. Peterson, Trumbull, Conn.; C. D. Goodrich, Fire Commissioner, Nichols; Chief Thomas F. Burns, Bridgeport; Chief Sidney Staples, Nichols, and Chief Charles Kellogg, Long Hill, Conn.

All the members present rose in silent tribute to the memory of Eugene Neil of Glenbrook, a member of the Plan, who passed away last week.

Capt. Foley, of the Bridgeport Fire Department and ex-President of the Connecticut State Firemen's Association, was present on the invitation of the Plan. He explained the purposes of the association, the money it receives from the state and how funds are given for injuries to firemen while on duty, for funeral expenses for firemen who are killed in action and to orphans of firemen until their children reach the age of 16 years.

An illustrated address showing the old and new methods of extinguishing forest fires was delivered by C. H. Lathrop, of Hartford, State Fire Warden. Mr. Lathrop declared that a total of 80,000 acres of forest land were burned in Connecticut in the year 1922, adding that this figure was cut approximately in half during 1933, because of the more efficient system and better equipment used in modern warfare on the forest fire.

Other speakers at the meeting included First Selectman Charles A. Bradley of Trumbull; James N. Sullivan, President of the Fire Chiefs' Emergency Plan, Westchester County; Captain Eugene Riviere, Secretary of that organization; Alfred Parker and Sidney Stapley, members of the Nichols Fire Department and Bernard O'Hara, Chairman of the Fire Commissioners of Milford, Conn.

Following the business meeting, refreshments were served with the Nichols firemen as hosts.

THOMAS F. MAGNER.

Haverhill, Mass., has appointed Deputy Chief Rufus A. Crittenden as Acting Chief to fill the vacancy caused by the retirement of Chief William H. Hawkins.

Fire Conference Held in Worcester

The Third Annual Fire Fighting Conference, held in conjunction with the Union Agricultural Meeting, took place the afternoon of January 5 in the new Memorial Auditorium, Worcester, Mass. Stephen C. Garrity, State Fire Marshal of Massachusetts, presided and the program was as follows:

"Worcester Bids You Welcome"—Chief Charles L. McCarthy, Worcester Fire Department.

(Ten Minute Talks)

"We Have Made Progress in 1933"—Howard S. Russell, Secretary, Massachusetts Farm Bureau Federation.

"Fire Prevention State-Wide"—Alfred N. Miner, Chairman, State Fire Prevention Committee.

(Addresses)

"Our Training Schools for Firemen: Their Advantages and The Next Steps"—M. Norcross Stratton, Division of Vocational Education, State Department of Education.

Working with the Next Town—

"When Good Neighbors Count: Greenfield Stops a Conflagration"—Herbert R. Ferris, Chief, Greenfield Fire Department.

"How We Work Together on the Cape"—Ray G. Wells, Chief, Falmouth Fire Department.

"What Apparatus Should the Small Town Buy"—Percy Charnock, Manager, Municipal Protection Department, New England Insurance Exchange.

Discussion.

The Fire Chiefs' Club of Massachusetts, the Massachusetts Safety Council, the Massachusetts State Fire Prevention Committee, the Massachusetts State Firemen's Association, the Massachusetts Department of Public Safety, Massachusetts Department of Conservation, and the New England Association of Fire Chiefs, were represented by members in attendance.

The establishment of training schools for firemen under direction of the State Department of Vocational Education was commended as a distinct forward step. Ten classes are now in operation in Massachusetts with an enrollment of 400 pupils.

The building of water holes and roads leading down to ponds and lakes to allow the use of pumps in forest fire work was praised. This work is being done by CWA workers under a federal appropriation allotment of $80,000. At present this work is confined to the five southeastern counties and a resolution was adopted urging that the making of water holes be extended to cover the entire state.

Mr. Stratton, of the State Department of Education, told of the training schools and said classes have been held in Arlington, Springfield, Worcester, New Bedford, Brookline, Lowell, Pittsfield, Falmouth, Haverhill, and Brockton, with students from 156 cities and towns. Seventeen fire department drill masters served as instructors and an organization has been formed known as the Massachusetts Fire Department Instructors' Association. Deputy Chief Horace Hutchins of Somerville, is President of the group.

The training courses were ten hours each, with five hours devoted to drill evolutions and five hours to class room work and lectures. The topics included forcible entry, ventilation, hydraulics, tools and appliances, fire prevention inspection, knot tying, hose and ladder evolutions, and salvage work.

Stanley Brown, Quincy, described the work of making the water holes and said 580 men in 68 different groups had been employed and work was done in 62 communities.

Other speakers were George O. Mansfield, who was recently promoted to Chief Inspector of the State Fire Marshal's office; Maxwell C. Hutchins, State Forest Fire Warden; P. Hildreth Parker, Fire Prevention Engineer of the New England Telephone & Telegraph Company and President of the Box 52 Association; and John Crowe, Assistant State Fire Warden.

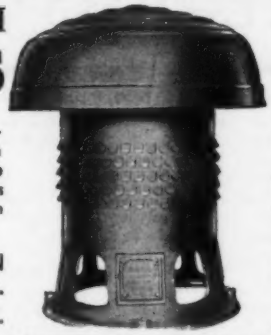
A committee was appointed to draw up a resolution on mutual aid, which was unanimously passed.

HARRY BELKNAP.

The Carmel, N. Y., Fire Department, at its annual meeting, reelected the following officers: Chief, Percy G. Snelling; Assistant Chief, Malcolm Donegan; Treasurer, James A. Zickler and Secretary, W. C. Jewell. This will be the sixth term for these officers.

The Federal Electric Company, Chicago, Ill., has announced a new C-5 Coaster Siren. This model is described in their Bulletin 43. Bulletins 41, 42 and 43 describe their complete line of sirens, whistles, horns and fire alarm boxes. The manufacturers claim that the C-5 is nearly three times as loud as an ordinary siren and that the rotor will coast for more than two minutes after the current has been shut off.

STERLING
FIRE ALARM SIRENS



Vertical General Fire Alarm signals. Costs are low. Installation and care are very simple. Write for facts. Sirens for Chief cars and apparatus—the best that can be made.

THE STERLING SIREN FIRE ALARM CO., INC.
60 Allen St., Rochester, N. Y.

Here I is suh!

SAMBO

Puts Out
CHIMNEY FIRES
Quickly

We will send an initial order of 3 doz. boxes of SAMBO and bill you $15. You can pay in 30 days.

THE GENERAL PRODUCTS COMPANY, INC.
NORWALK, CONN.

COMFORT AND SECURITY
WITH THE
CAIRNS
LOW HEAD—CUSHION LINED
HELMET

COMFORTABLE AS YOUR OLD FELT HAT; WON'T SHAKE OFF

Never go to a fire without the protection of a good helmet. It may save your life.

Now is the time to start a new Fire Record Book. 3 sizes. 350-700-1400 alarms.

Ask for Catalog 227

CAIRNS & BROTHER
444 LAFAYETTE STREET - Established 1836 - NEW YORK
HELMETS — CAPS — BADGES, RUBBER COATS, ETC.

HALE FIRE PUMPS CONSHOHOCKEN PA

There's a lot of satisfaction in buying a pumper, especially when it is equipped with a Hale Rotary or centrifugal pump.

Hale pumps have longer, trouble free lives because of better design, better materials and more accurate workmanship.

HALE FIRE PUMP CO., INC.
CONSHOHOCKEN, PA.

They Are Doing Their Best

But ONE MAN
Could Extinguish This Brush Fire In Half The Time With An

INDIAN
FOREST FIRE PUMP

Ready for action. Note freedom of arms.

SHOVELS — brooms — sticks. Poor things for fighting a raging brush fire! The five men are doing their best to get the blaze under control — but if *just one* of them had an INDIAN FIRE PUMP their job would soon be over.

Designed according to the specifications of experts on forest, brush and grass fire fighting, INDIAN FIRE PUMPS are the last word in portable extinguishers. They are *built strong, made right,* and use only clear water. INDIANS are the choice of fire wardens and fire chiefs.

PATENTED

COMBINATION BRASS NOZZLE FOR 90 FOOT STREAM OR LONG COARSE SPRAY
COMBINATION BRASS HANDLE FOR CARRYING TANK AND FOR HOLDING PUMP
HEAVY CAST BRASS QUICK OPENING WATER TIGHT FILLER CAP WITH REMOVABLE BRASS STRAINER. CAP HAS INSIDE CHAIN TO PREVENT LOSING.
EXTRA HEAVY TANK HAS SOLID BRASS BOTTOM. ALL JOINTS LOCKED AND SOLDERED. BUILT STRONG.
INDIAN

The newest INDIAN contains improvements and features which make it stronger and better than ever. Write for details and prices.

FORM-FITTING, VENTILATED TANK GIVES A CONSTANT CIRCULATION OF AIR BETWEEN TANK AND CARRIER'S BACK. IT PROTECTS THE BACK FROM THE COLD WATER AND MOISTURE IN THE TANK AND KEEPS THE BACK WARM AND DRY. THE FORM-FITTING SHAPE OF THIS TANK FITS THE BACK PERFECTLY, SNUG AND FIRM AND FEELS GOOD.

D. B. Smith & Co. 406 Main St., UTICA, N. Y.

Pacific Coast Agents
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11 Mission St. San Francisco, Cal.

FALSE ALARMS

—Drawing by "Art" Espey

"I thought there was a 'short' somewhere."

Investigators discovered that he made a small fortune selling short. He operated a gasoline filling station.

THE VOLUNTEER

He wears no uniform of blue,
He's just a common man like you;
No flashy badge adorns his chest
To make him different from the rest.
But when there's fire, smoke, and flame,
Then perhaps he is not the same
As you and I who stand aside
When danger lurks, and courage's tried.
He'll die to save a human life—
Perhaps your daughter, son or wife.
He gets no pay from year to year
Still, he's proud to be a volunteer.

RAY EDLESON.

The wife who drives from the back seat isn't any worse than the husband who cooks from the dining room table.

NOT TO BLAME

Back of the fire house, the air was being rent with the wailing of a saxophone. He was a member of the musical unit of the service and was utilizing his time between duties. The musician noted that in the adjoining yard, a neighbor stopped his work.

"Does my practicing make you nervous?" asked the musician.

"It did when I first heard the neighbors discussing it, but now I don't care what happens to you."

Fashion designers say curves and bulges are coming back in style. Many hope the bulges will return to wallets.

NOT TO BLAME

In a corner of the recreation room, a fireman who had hopes of becoming Lieutenant some day, was trying to read through the pamphlet on fire prevention ordinances. In another part of the room a group were playing a spirited game of rummy.

"Will you fellows stop making so much noise?" shouted the fireman. "I can't even read."

To which a wit replied, "Well, don't blame us for your ignorance."

No matter how good, bad, or indifferent a fireman may be, he will always go to blazes.

THE MERRY-GO-'ROUND

The new member of the company, an attractive fellow with a most pleasing disposition, was telling a comrade how he had taken a step in the direction of matrimony.

He continued, "Yes, I had a little balance in the bank, but I got engaged two months ago, and now . . ."

"Love makes the world go 'round," volunteered the other.

"Yes, but I didn't think it would go 'round so fast as to make me lose my balance."

When you see a dog leading a man, you know that that man is blind. When you see a man leading a dog, you know that that man is leading a dog's life.

DAY BY DAY

Young, bold and handsome—that was Pete. But when he tried to fight his way to a basement fire, he slipped, was badly injured and was moved to the hospital. Several days later the department physician called and asked the nurse about her patient.

He inquired, "Have you kept a chart of his progress?"

The nurse blushingly replied, "No, but I can show you my diary."

Matrimony is a serious word, says a domestic science lecturer. He is wrong—matrimony is a sentence.

THE PERFECT HOST

A newcomer on a secluded street of individual homes who did not have the opportunity of meeting his neighbors, had the misfortune to have a small fire break out in his home. He rushed out of his home and found two of his neighbors at the hedge, having been attracted by the smoke.

He said to one, "Will you please run to the corner and give the alarm?"

"I can't," explained the man, "I have a wooden leg and can't run."

The excited newcomer turned to the other and said, "I say. While I'm getting some things out, please run to the end of the street and shout, 'Fire!' "

The neighbor replied in a stage whisper, "I'm suffering from laryngitis."

There was not a moment to spare. Like the perfect host he turned to his neighbors and said politely, "Suppose both of you go into the house and bring out easy chairs and sit down here and enjoy the blaze."

MATTER OF FORMALITY

The formal department dinner was being held at the largest hotel in the city. A good crowd assembled. One of the participants who grew tired of the speeches, left the room and started telling the coat room girl what an important man he was in his home town. He became loud and boisterous.

"Where's the men's room?" he finally asked.

"Walk down the corridor," she said, "turn to your right and you'll see a sign marked 'Gentlemen.' Pay no attention to the sign but walk right in."

The fellow who gives in when he is wrong is a wise man, but he who gives in when he is right is married.

TRAINED FINGERS

The clerk was explaining to a coworker, "Of course, women are as capable as men. Why, I know of a girl twenty-two years old who gets the salary that this city pays a marshal."

"I don't doubt it," replied the other. "When did she marry him?"

Women are like newspapers. Every man should have one of his own and not try to pick up his neighbor's.

TOO LATE

At the state convention, there was the usual handshaking and backslapping as Chiefs who hadn't seen each other for a year or more renewed old acquaintances.

"So you're married now! Well! Well! You certainly sprung a surprise on us. How long did you know your wife before you were married?"

"I didn't know her at all. I only thought I did."

—Drawing by "Art" Espey

David and Goliath

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